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Witness: Robert B. Hevert
Type of Exhibit: Surrebuttal Testimony
Sponsoring Party: Kansas City Power & Light Company
Case No.: ER-2014-0370
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2014-0370

SURREBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
June 2015

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OF

ROBERT B. HEVERT

Case No. ER-2014-0370

I. INTRODUCTION AND OVERVIEW

Q: Please state your name and business address.

A: My name is Robert B. Hevert and my business address is Sussex Economic Advisors, LLC, 161 Worcester Road, Suite 503, Framingham, MA 01701.

Q: Are you the same Robert B. Hevert who pre-filed Direct and Rebuttal Testimony in this matter?

A: Yes, I am.

Q: What is the purpose of your Surrebuttal Testimony?

A: On behalf of Kansas City Power & Light ("KCP&L" or the "Company"), my Surrebuttal Testimony responds to the Rebuttal Testimony submitted in this proceeding by Mr. Zephania Marevangepo on behalf of the Missouri Public Service Commission ("Commission") Utility Services Division ("Staff"), and Mr. Michael P. Gorman on behalf of the Missouri Industrial Energy Consumers, and the Midwest Energy Consumers' Group (together, the "Opposing Witnesses") as their Rebuttal Testimony relates to the Company's market-required Return on Equity ("ROE" or the "Cost of Equity").[1] My analyses and conclusions are supported by the data presented in Schedules RBH-31 through RBH-35, which have been prepared by me or under my direction.

[1] Ms. Reno, who filed Direct Testimony on behalf of the United States Department of Energy and the Federal Executive Agencies, did not file Rebuttal Testimony in this proceeding.

Q: Please provide an overview of the recommendations and principal issues addressed in your Surrebuttal Testimony.

A: In my Direct Testimony, I recommended a ROE range of 10.20 percent to 10.60 percent, with a specific recommendation of 10.30 percent; my Rebuttal Testimony reduced the lower end of my recommended range to 10.00 percent. For the reasons discussed in the balance of my Surrebuttal Testimony, none of the arguments raised in Messrs. Marevangepo's or Gorman's Rebuttal Testimonies have caused me to revise my recommendation. As such, I continue to recommend an ROE of 10.30 percent, within a range of 10.00 percent to 10.60 percent.

Because many of the issues raised by Messrs. Marevangepo and Gorman already have been addressed in my Rebuttal Testimony, my Surrebuttal Testimony addresses only incremental points. Nonetheless, a theme that arose in their Direct Testimony, and which was reiterated in their Rebuttal Testimony, is the notion that the Cost of Equity necessarily has fallen since the Company's prevailing ROE was authorized in January 2013. Rather than address that point in my response to each of the Opposing ROE Witnesses, I do so in the following section of my Surrebuttal Testimony.

Q: Please summarize your concerns with Staff's position.

A: My principal concern is that Staff's position is neither objective, nor subject to verification. As discussed in my Rebuttal Testimony, Mr. Marevangepo states very clearly that in his view, the Cost of Equity for vertically integrated utilities such as KCP&L is in the range of 6.00 percent to 7.00 percent; his analyses indicated a range of

7.18 percent to 7.96 percent.[2] In his Rebuttal Testimony, Mr. Marevangepo "corrects" his analyses, and concludes that the Cost of Equity is in the range of 7.21 percent to 7.99 percent.[3] Despite those analytical results, and notwithstanding his continuing belief that it is "not improbable that investors are only requiring returns on common equity in the 6 to 7 percent range for utility stocks"[4], Mr. Marevangepo recommends an ROE of 9.25 percent (within a range of 9.00 percent to 9.50 percent).

As in the Staff Cost of Service Report, Mr. Marevangepo's 9.25 percent recommendation is not directly tied to his current analytical results. He recognizes that they are too low to be a credible estimate of the Company's ROE. Rather, Mr. Marevangepo looks to a derivative of those results - the estimated change in Staff's Multi-Stage Discounted Cash Flow ("DCF") model results from December 2012 to 2015. In fact, Mr. Marevangepo acknowledges that his position that the Cost of Equity has declined since 2012 is not based on direct evidence, but rather on "an analysis and interpretation of circumstantial evidence."[5]

That circumstantial evidence (that is, the change in DCF model results) is based on a method and produces estimates that have been rejected by the Commission, and that are wholly incompatible with any objective and verifiable measure of capital costs. Quite simply, if Mr. Marevangepo's DCF model is not sufficiently reliable to measure the actual Cost of Equity in the first instance, how can it be sufficiently reliable to measure the change in the Cost of Equity? As discussed later in my Rebuttal Testimony, Mr. Marevangepo's DCF analysis is not appropriate for either purpose.

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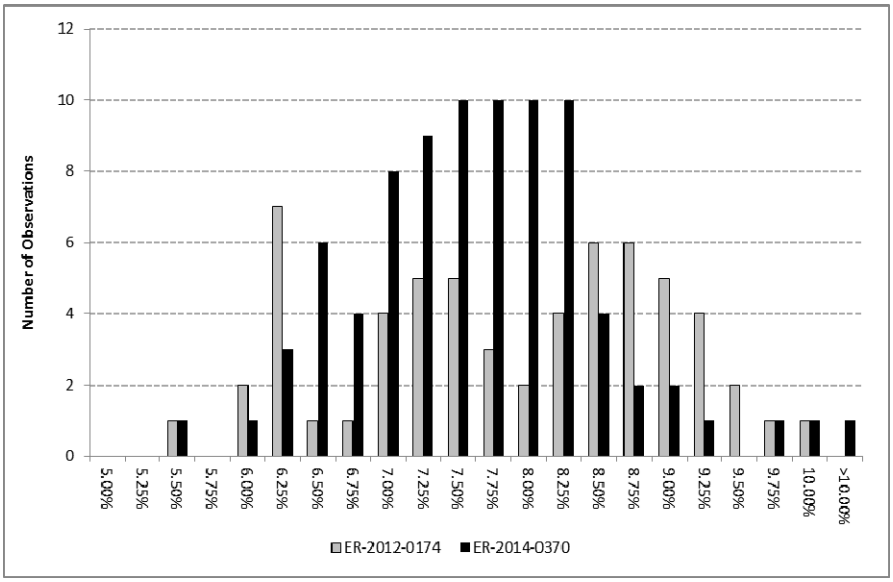
2 Staff Cost of Service Report, at 55, 52.
3 Rebuttal Testimony of Zephania Marevangepo, at 1.
4 Staff Cost of Service Report, at 55.

More importantly, the ranges of Staff's combined Multi-Stage DCF and Capital Asset Pricing Model results in this proceeding, and in KCP&L's last rate proceeding (Case No. ER 2012-0174), largely overlap each other (see Chart 1 below). An 80 to 90 basis point difference cannot be inferred from Chart 1. Further, the dispersion of those estimates is so wide that we cannot conclude that there is a meaningful difference in Staff's results between those two cases. One observation that can be made with confidence is that of the 144 ROE estimates that Staff produced with those models in those two cases, only five were equal to or greater than 9.50 percent.

Chart 1: Staff's Multi-Stage DCF and CAPM Estimates[6]



The finding that there is no meaningful difference in Staff's combined CAPM and DCF estimates is especially important when we consider the Commission's determination that no one model is more "correct" than other models in all circumstances, and that it is

5 Rebuttal Testimony of Zephania Marevangepo, at 4.

6 Case No. ER-2014-0370, Staff Cost of Service Report, Appendix 2; Case No. ER-2012-0174 Staff Cost of Service Report, Appendix 2.

important to consider a variety of methods to estimate the Cost of Equity.[7] In that important respect, Staff's conclusion runs counter to the Commission's emphasis on the benefits brought about by the use of multiple methods. Not only is the Commission's perspective on the use of multiple methods proper in the context of rate-setting, it also is consistent with industry practice. Mr. Marevangepo's approach, which continues to rely on a single method, is outside of the mainstream of practice, and provides no support for his conclusion that the Cost of Equity has fallen by as much as 75 basis points since the Company's last rate case.

Q: Please now summarize your concerns with Mr. Gorman's position.

A: Mr. Gorman maintains his recommended ROE of 9.10 percent based in part on his view that utility stocks are low-risk, safe haven investments that currently are in favor by investors. He appears to continue to rely heavily on his Constant Growth DCF estimates, despite his acknowledgement that the utility sector had been valued at historically high levels. His analysis, however, does not recognize that those valuations have fallen since the beginning of 2015. Although Mr. Gorman also supports his 9.10 percent recommendation by making various "adjustments" to my models, those adjustments are misplaced, and unreasonably bias the results downward.

Despite the fact that Mr. Gorman's 9.10 percent ROE recommendation is below 98.00 percent of the ROEs authorized for vertically integrated electric utilities since 2013, he states that the Company's Cost of Equity would be lower still if certain of its proposed rate mechanisms are adopted. Yet, as in his Direct Testimony, Mr. Gorman's Rebuttal Testimony fails to provide any comparative analysis of mechanisms in place at

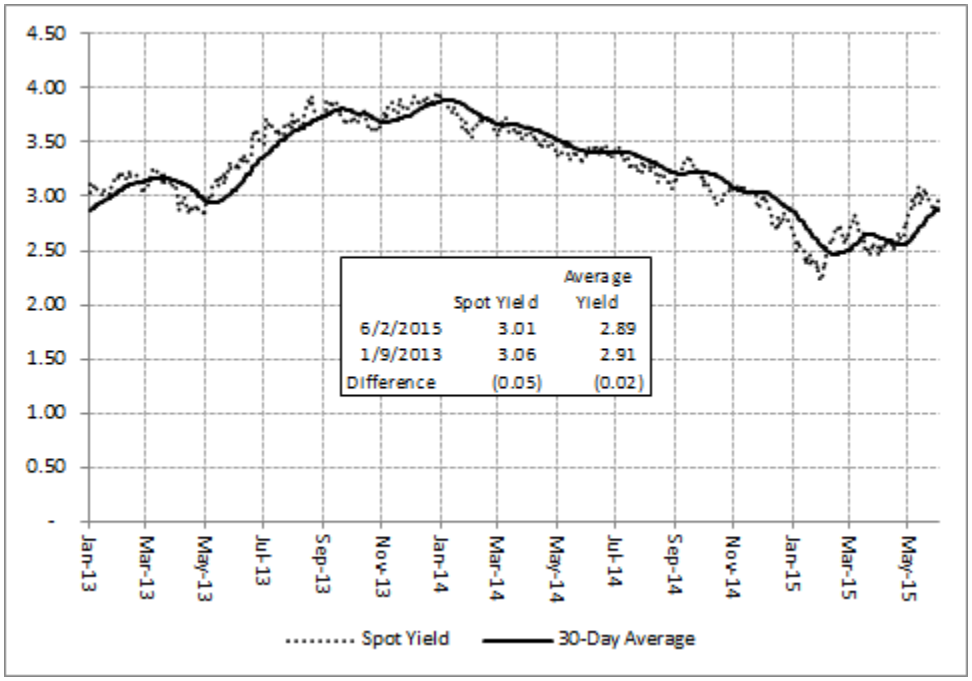
[7] *In re Union Elec. Co.,* Case No. ER-2011-0028, Report and Order (Mo. P.S.C., July 13, 2011) at 67.

his proxy companies, or any empirical analysis of the incremental effect of such structures on the Cost of Equity. Rather, Mr. Gorman assumes the outcome. He assumes that investors will look only at the Company before and after the mechanisms are put in place, and will substantially lower their return requirements as a direct consequence of those structures. As explained later in my Rebuttal Testimony, Mr. Gorman's approach is fundamentally mistaken, and his conclusion is unsupported.

Q: Are there other points on which Staff and Mr. Gorman are mistaken in their approach to estimating the Company's Cost of Equity?

A: Yes. Mr. Gorman suggests that his 9.10 percent ROE recommendation is supported by the current level of interest rates, the volatility of interest rates, credit spreads, and Price/Earnings ("P/E") ratios. Mr. Marevangepo likewise focuses on interest rates and P/E ratios to support his recommendation. None of those measures, however, supports the conclusion that the Cost of Equity has fallen since January 2013. For example, the 30-year Treasury yield currently is within five basis points of its January 9, 2013 level (*see* Chart 2, below).

Chart 2: 30-Year Treasury Yield[8]



Similarly, utility credit spreads have been steadily increasing such that they now exceed their January 2013 levels (*see* Table 1, below).

Table 1: Credit Spreads (%, 30-Day Average)[9]

	Moody's Baa Utility Index	Moody's A Utility Index
1/9/2013	1.65	1.11
6/2/2015	1.94	1.20
Change	0.29	0.09

As to the other metrics noted by Messrs. Marevangepo and Gorman, interest volatility currently exceeds its longer-term average,[10] and the average P/E ratio for Mr. Gorman's

8 Source: Bloomberg.

9 Source: Bloomberg. Represents difference to concurrent 30-year Treasury yield.

10 Whether measured as the average one-day change in yields, or as the Coefficient of Variation in the one-day change in yields the volatility of 30-year Treasury yields is well above its average since December 2012. For example, from April 29, 2015 to June 3, 2015 the average one-day change was 5.08 basis points; from December 31, 2012 to April 29, 2015 the average one-day change was 3.39 basis points. Over the same time

proxy group now is at approximately the same level observed in January 2013.[11] In short, none of the metrics noted by Staff or Mr. Gorman support their assertions that the Cost of Equity has fallen since January 2013.

Despite Mr. Gorman's and Staff's positions regarding changing market conditions, there has been no meaningful downward trend in authorized returns for vertically integrated electric utilities since January 2013 (see Chart 3, below). In fact, the trend during that period is not statistically different than zero. Even if we were to assume that there was some significance to the trend of returns, the implied ROE as of June 1, 2015 would be 9.88 percent, not far from the overall average of 9.92 percent. But assuming a downward trend going forward would be a mistake. As discussed above, interest rates, credit spreads, and interest rate volatility have increased, and P/E ratios have declined - all of which indicate higher, not lower costs of capital.

Although they are clustered within a narrow range, the Opposing Witnesses' ROE recommendations remain far below industry levels. Of 56 cases since January 2013, only one resulted in a return lower than the Opposing ROE Witnesses' recommendations. And as noted in my Rebuttal Testimony, that one case included a 50 basis point reduction for "system inefficiencies".[12] Looking to the high end of their collective ranges, only six of the 56 cases included ROEs of 9.50 percent or lower (seven, if we were to include the

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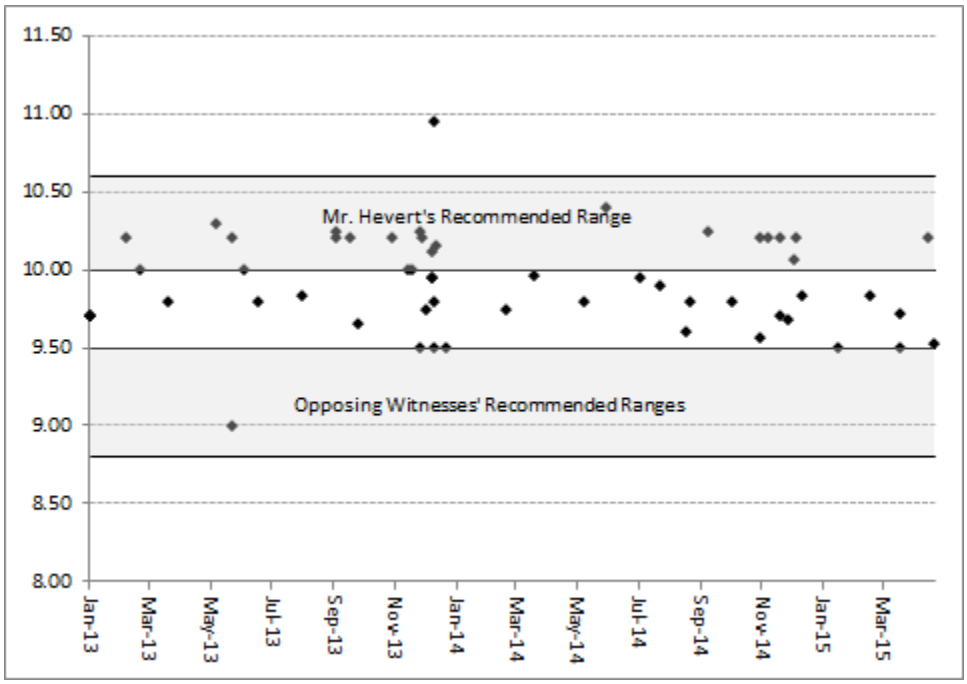
periods, the Coefficient of Variation was 5.77 percent and 2.78 percent, respectively. Even considering a longer period during 2015 does not change the conclusion that long-term Treasury yields now are more volatile. The average one-day change from January 31, 2015 to June 2, 2015 was 4.48 basis points; from December 31, 2012 to January 31, 2015 it was 3.29 basis points. The Coefficient of Variation in the one-day change during those periods was 5.01 percent and 2.56 percent, respectively. Source: Federal Reserve Schedule H.15.

[11] As noted in the June 2, 2015 edition of The Wall Street Journal, the increasing volatility of Treasury yields has caused some brokerage firms to consider implementing "circuit breakers" to temporarily halt trading following large price moves. Source: The Wall Street Journal, *ICAP Weighs Treasurys-Trading Collar*, June 2, 2015.

[12] Rebuttal Testimony of Robert B. Hevert, at 68.

recent 9.53 percent ROE awarded by the Commission to Ameren). In stark contrast, 24 of the 56 cases were within my recommended range.

Chart 3: Authorized ROEs - Vertically Integrated Electric Utilities (2013 – 2015)[13]



Lastly, in 2013 and 2014, the Company's average earned Return on Common Equity was approximately 6.09 percent, or 361 basis points below its authorized return of 9.70 percent.[14] While Mr. Ives discusses the fundamental issues underlying the Company's under-earning condition, I simply observe that with continuing investments in its utility assets, the effect of regulatory lag has diluted and will continue to dilute KCP&L's earned return. Those earnings levels clearly are well below the returns available to other vertically integrated electric utilities. If the Company continues to earn returns so far below prevailing levels, it will become increasingly difficult to compete for capital against utilities whose earned returns are more consistent with their authorized

returns. To the extent the Company chronically earns equity returns below its authorized returns, that deficit will put downward pressure on the earnings and cash flow-based metrics that are important to both debt and equity investors. In each case, the dilution resulting from under-earning its authorized return will diminish the Company's financial integrity and, therefore, its ability to attract capital at reasonable terms under a variety of market circumstances.

II. RESPONSE TO STAFF WITNESS MAREVANGEPO

Q: Please briefly summarize Mr. Marevangepo's Rebuttal Testimony.

A: Although Staff reduced its estimate of the decline in KCP&L's Cost of Equity by ten basis points (i.e., from 90 to 100 basis points to 80 to 90 basis points), Mr. Marevangepo believes an authorized ROE "no higher than 9.53% for KCPL" is "fair and reasonable"[15] Mr. Marevangepo's Rebuttal Testimony presents three principal areas of disagreement with the analyses and conclusions provided in my Direct Testimony:

- He opposes the growth rates used in my DCF analyses, particularly my reliance on analysts' three to five year earnings growth rate estimates and the formulation of my long-term Gross Domestic Product ("GDP") growth estimate.[16]
- He disagrees with the Market Risk Premium ("MRP") used in my CAPM analysis, in particular the expected return on the overall market.[17]
- He disagrees with the use of authorized returns in my Risk Premium analysis,

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[13] Source: Regulatory Research Associates. Please note that there was little difference between the average ROE in litigated cases (9.90 percent) and settled cases (9.93 percent).
[14] KCP&L Quarterly Surveillance Reports, December 31 2013, and December 31, 2014.
[15] Rebuttal Testimony of Zephania Marevangepo, at 4.
[16] *Ibid*., at 10-11.
[17] *Ibid*., at 12.

suggesting authorized returns are not the same as the required ROE.[18]

Before addressing those issues, however, I have several observations regarding the basis of Mr. Marevangepo's ROE recommendation.

A. Staff's ROE Recommendation

Q: Did Mr. Marevangepo update his ROE recommendation in his Rebuttal Testimony?

A: No, he did not. Although he corrected an error in the Staff Report and reduced its estimate of the decline in KCP&L's Cost of Equity by ten basis points (*i.e.*, from 90 to 100 basis points to 80 to 90 basis points), Mr. Marevangepo did not change his ROE recommendation.[19] Mr. Marevangepo did state, however, that in his view an authorized ROE "no higher than 9.53% for KCPL" is "fair and reasonable"[20], and that yields on utility bonds support his conclusion.[21]

Q: What is your response to Mr. Marevangepo's recommendation that the Company's ROE should be "no higher than 9.53%"?

A: Although Staff bases its recommendation in this proceeding, at least to some degree, on Union Electric Company d/b/a Ameren Missouri's ("Ameren") ROE, there are several points that should be considered. For example, since the beginning of July 2014 (when Ameren filed its rate case) credit spreads for both A and Baa-rated utilities have increased.

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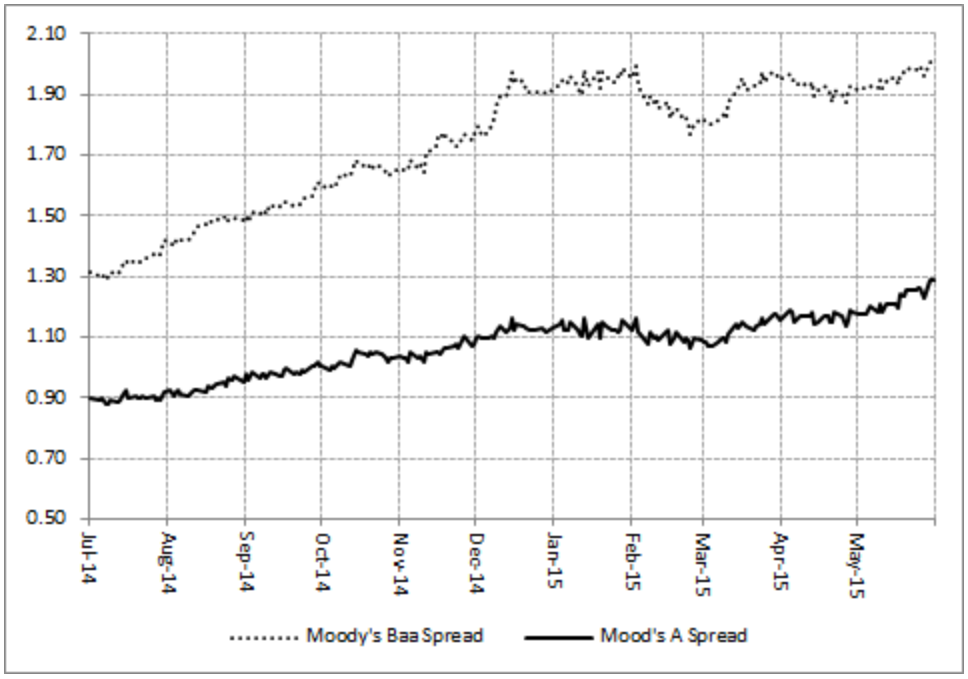
18 *Ibid.*, at 12-13.
19 *Ibid.*, at 1-2, 4.
20 *Ibid.*, at 4.
21 *Ibid.*, at 7.

Chart 4: Moody's Utility Index Credit Spreads[22]



In addition, although Mr. Marevangepo suggests that utility bond yields are materially lower now than they were over the entire year of 2012,[23] the same is not true when measured on a more current basis. In fact, over a more recent 30-day period, utility bond yields are higher, particularly for Baa-rated securities (see Table 2, below).

Table 2: Moody's Utility Bond Index Yields (%, 30-day Average)[24]

Date	Moody's Utility Baa Index Yield	Moody's Utility A index Yield
12/31/2012	4.52	3.96
6/2/2015	4.82	4.09
Difference	0.30	0.13

[22] Source: Bloomberg. Credit spread represents difference to 30-year Treasury yield on a spot basis.
[23] Rebuttal Testimony of Zephania Marevangepo, at 7.
[24] Source: Bloomberg.

Similarly, Mr. Marevangepo suggests that despite analysts' predictions to the contrary, the ten-year Treasury yield has remained below 2.00 percent. But, like the 30-year Treasury yield, the ten-year yield has become increasingly volatile, and since late April 2015 has remained above 2.00 percent.[25] Although the yield may trade in the 2.00 percent range in the near-term, increased volatility in Treasury bond yields indicates a level of capital market instability that was not present in 2012, when the Federal Reserve was implementing its third round of Quantitative Easing. Consequently, Mr. Marevangepo's observations regarding the fixed income market do not support his view that the Cost of Equity should be constrained by the Ameren decision.

Q: Are you aware of reactions to the Ameren decision within the investment community?

A: Yes. In the approximately one month since the Commission's Order in the Ameren case, industry analysts have begun to react to the decision. For example, in its Final Rate Case Report, Regulatory Research Associates assessed the Commission's decision as "negative, on balance, from an investor perspective."[26] The report further stated that the authorized ROE was "below both the average of the equity returns accorded energy utilities nationwide over the past 12 months and the ROE authorized for the company in a 2012 rate decision."[27] Likewise, Morningstar referred to the decision as "disappointing, supporting our concern that Missouri remains one of the toughest regulatory operating environments."[28]

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[25] On June 3, 2015 the ten-year Treasury yield closed at 2.37 percent. Source: Yahoo Finance.
[26] RRA, Regulatory Focus *Rate Case Final Report for Union Electric*, May 18, 2015, at 1.
[27] *Ibid*.
[28] Morningstar Analyst Note May, 7, 2015.

Q: Turning now to Mr. Marevangepo's assessment of the Company's Cost of Equity relative to KCP&L's 2012 rate case (Case No. ER-2012-0174), do you have any general observations regarding the basis of his conclusion that the Cost of Equity has fallen since that proceeding?

A: Yes, I do. As a preliminary matter, I disagree with Mr. Marevangepo's conclusion that it is appropriate to determine the Company's ROE based on the "circumstantial evidence" of changes in Staff's ROE estimates. That is especially the case since that "evidence" reflects his application of a method (the DCF approach) that is subject to a number of questionable assumptions, and relies on estimates that are wholly incompatible with any objective and verifiable measure of capital costs. In prior proceedings, ROE estimates in the 8.00 percent to 9.00 percent range have been rejected by the Commission.[29] In any event, when Staff's DCF and CAPM results are considered, there is no reason to believe that the Cost of Equity has decreased since the Company's last rate case.[30]

Second, Mr. Marevangepo has not explained why the change in Staff's model results should be accepted by the Commission as a measure of the Cost of Equity when he does not base his recommendation on those results in the first place. Not only does Staff not directly rely on its model results, but in the Company's 2012 rate case, the Commission rejected Staff's results and recommended ROE as being an "outlier"[31] that

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http://analysisreport.morningstar.com/stock/research?t=AEE&region=USA&culture=en-US&productcode=MLE

[29] Report and Order Case No. ER-2012-0174, at 19, 22.

[30] Whereas Staff has focused on its "back-tested" results based on specific proxy companies, my assessment is based on the very reasonable assumption that the proxy group that Staff assembled in each rate case represents its best estimate of the Cost of Equity at that point in time. Since Staff is concerned with changes in the Cost of Equity, it is entirely reasonable to consider the unadjusted results in the 2012 and 2014 cases, respectively.

[31] Report and Order Case No. ER-2012-0174, at 20.

was based on "discredited data".[32] Since the 2012 model results were not a reasonable estimate of the Company's Cost of Equity then, and Mr. Marevangepo does not rely directly on his model results now, neither should be used for the derivative purpose of measuring the change in the Cost of Equity.

Q: Do Staff's analytical results show an 80 to 90 basis point decline in the Cost of Equity as Mr. Marevangepo argues?

A: No, they do not. Because Mr. Marevangepo asserts that KCP&L's Cost of Equity has fallen "80 to 90 basis points"[33] since the Company's last rate case, I gathered Staff's analytical results from both the Multi-Stage DCF and CAPM approaches to determine whether those results indicated such a dramatic fall. I then plotted the results on a histogram, which reveal a significant overlap of results (*see* Chart 1 above).

An 80 to 90 basis point difference cannot be inferred from Chart 1. Although there were more observations of results greater than 8.50 percent in the 2012 rate case, there also were also more observations of results in the 6.00 percent to 6.25 percent range. Further, the dispersion of estimates is so wide that Staff cannot say with any confidence that there is a meaningful difference between the two. In fact, the standard deviation of the 2012 and 2014 rate cases are 115 basis points and 87 basis points, respectively. Because Staff's 80 to 90 basis point change falls within one standard deviation, it cannot say with any certainty that the two sets of results are statistically distinct. Consequently, the Commission should reject Staff's argument that there has been a meaningful significant decline in the Cost of Equity since KCP&L's 2012 rate case.

[32] Report and Order Case No. ER-2012-0174, at 23.

B. Discounted Cash Flow Analyses

Q: What are Mr. Marevangepo's concerns with the earnings growth rates used in your DCF analyses?

A: Mr. Marevangepo argues that applying analyst growth rates in perpetuity results in inflated Constant Growth DCF model results, and that analysts' earnings growth rate projections do not "represent investors' assumed perpetual growth of utilities' Dividends Per Share."[34]

Q: What is your response to Mr. Marevangepo on those points?

A: The analyses presented in my Rebuttal Testimony (particularly in response to Witness Reno) demonstrated that earnings per share ("EPS") growth is the only statistically significant predictor of the proxy companies' P/E ratios.[35] Consequently, even if Mr. Marevangepo is of the view that the earnings growth projections are too high, empirical evidence and academic research demonstrate that investors rely on earnings growth projections in forming their investment decisions.

Q: Do you agree with Mr. Marevangepo's concern regarding the sustainability of three to five year earnings growth estimates in the DCF model?

A: No, I do not. Mr. Marevangepo's position is based on his observation that the three to five year earnings growth estimates in my Constant Growth DCF models are above his assessment of perpetual GDP growth. Mr. Marevangepo's GDP growth projections,

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[33] Rebuttal Testimony of Zephania Marevangepo, at 4.
[34] *See* Rebuttal Testimony of Zephania Marevangepo, at 10-11.
[35] *See* Rebuttal Testimony of Robert B. Hevert, at 54 -55.

however, are inconsistent with the DCF model's structure and do not reflect the mean-reverting nature of GDP growth rates.[36]

Second, regardless of whether Mr. Marevangepo believes that analysts' growth rate projections are too high, the relevant analytical question is whether *investors* rely on those estimates in making their investment decisions. As discussed in my Direct and Rebuttal Testimonies, there is a substantial body of research showing investors are primarily concerned with earnings and cash flow growth.[37] That finding is corroborated by the analyses presented in my Rebuttal Testimony comparing earnings, dividend and book value per share growth measures.

Lastly, although Mr. Marevangepo criticizes the use of analyst growth rates, those projections are observable and have a demonstrated empirical relationship to utility valuation multiples. The growth rates included in Mr. Marevangepo's analysis, on the other hand, are based on his subjective opinion as to those which are "more typical of those that are used by investors."[38] That is, rather than rely on an independent, observable, and verifiable source of growth rate projections, Mr. Marevangepo provides a discussion of GDP growth and each proxy company's historical and projected growth rates, and in the context of that narrative, applies his subjective judgment to arrive at what he considers to be a suitable growth rate. Because it is substantially a function of his judgment, Mr. Marevangepo's analysis cannot be replicated or verified. Given the empirical support for using published, observable, and verifiable analysts' growth rate

[36] *Ibid.*, at 31-32.
[37] *See* Direct Testimony of Robert B. Hevert, at 13-15; Rebuttal Testimony of Robert B. Hevert, at 21-24.
[38] Staff Cost of Service Report, at 49.

projections, Mr. Marevangepo's approach essentially substitutes his judgment for that of the market.

Q: Please briefly describe the estimate of long-term GDP growth used in the terminal year of your Multi-Stage DCF model.

A: As explained in my Direct Testimony, I have relied on the long-term historical growth rate in real GDP adjusted to reflect long-term forecasts for inflation in order to establish the projected nominal GDP growth rate in the terminal year of my Multi-Stage DCF analysis.[39] The long-term GDP growth rate in my Direct Testimony was based on the historical real GDP growth rate of 3.27 percent from 1929 through 2013 and an inflation rate of 2.31 percent based on the Treasury Inflation Protection Securities ("TIPS") spread.[40]

Q: What are Mr. Marevangepo's concerns with your estimate of GDP growth?

A: Mr. Marevangepo suggests the nominal GDP growth rate is overstated relative to the "publicly available" nominal GDP growth rate forecasts that he favors.[41] He also states that the "consensus long-term nominal GDP projection, based on projected real GDP and inflation, is approximately 4.32%; and not greater than 5% by any means."[42] As to my use of historical growth, Mr. Marevangepo asserts that I "delicately expressed ignorance of the existence of publicly available long-term forward real GDP projection values."[43]

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39 *See* Direct Testimony of Robert B. Hevert, at 24.

40 *Ibid*. Please note, in my Rebuttal Testimony the long-term real GDP growth rate was updated to 3.26% using data through 2014 and the expected inflation rate was updated to 2.05%; *See*, Rebuttal Testimony of Robert B. Hevert, at 33.

41 *See* Rebuttal Testimony of Zephania Marevangepo, at 11-12.

42 *Ibid*, at 11.

43 *Ibid*.

Q: Before turning to the differences in approaches between you and Staff, what is your response to Mr. Marevangepo's assertion that you "delicately expressed ignorance" of GDP growth projections?

A: I disagree. As discussed on page 27 of my Rebuttal Testimony, a principal difference between our approaches is that mine expressly reflects the timing and horizon of the GDP growth rate projection needed in the Multi-Stage DCF model. Mr. Marevangepo seems to believe that disagreement with his position constitutes ignorance, when the crux of the matter is the availability of forecasts that correspond to the period for which they are being used in the DCF model. I am not ignorant of those forecasts; I simply disagree with their use for that purpose.

As also discussed in my Rebuttal Testimony (at pages 24 - 25), Mr. Marevangepo is willing to accept the mean-reverting nature of economic data for other aspects of his analysis. Yet, when it comes to real GDP growth, he suggests that it would be less than sensible to accept such data. On balance, I disagree with Mr. Marevangepo's approach, and with his assessment of my understanding of the issues.

Q: What is your response to Mr. Marevangepo's assessment of the proper long-term real GDP growth?

A: As discussed in my Rebuttal Testimony,[44] the *Annual Energy Outlook 2014* forecast period is not sufficiently long to represent a perpetual growth rate, and ignores the fact that until the recent recession and continuing slow recovery, real GDP growth has cyclically fluctuated around its long-term historical average of 3.27 percent.[45] In

[44] *See* Rebuttal Testimony of Robert B. Hevert, at 27-28.
[45] *Ibid.*, at 32, Chart 4.

addition, the U.S. Energy Information Administration's ("EIA") *Annual Energy Outlook 2014* (the source of Mr. Marevangepo's real GDP growth forecasts) reports long-term historical real GDP growth. Updating its calculation of historical growth to reflect recent Bureau of Economic Analysis revisions and updates to the National Income and Product Accounts ("NIPA"), EIA estimates a long-term historical average real GDP growth rate very similar to mine:

> Although the 2013 comprehensive NIPA revision did not lead to changes in broad economic trends or in the general patterns of past business cycles, it did increase gross domestic product (GDP) in every year back to 1929. The average annual growth rate of real GDP from 1929 to 2012 was revised upward to 3.3%, as compared with the previous estimate of 3.2%.[46]

Given that Mr. Marevangepo relies on long-term historical data for the purposes of his CAPM analysis, it is unclear why he would not consider the use of long-term historical data for the purpose of developing a long-term GDP growth rate. In that regard, the arithmetic average capital appreciation rate for large-capitalization stocks from 1926 – 2014 has been 7.78 percent (the geometric average has been 5.88 percent),[47] which is substantially higher than Mr. Marevangepo's estimate of long-term GDP growth of 4.30 percent, as contained in the Staff Report at page 60. As such, the assumptions used in Mr. Marevangepo's DCF analysis and his CAPM analysis are highly inconsistent.

Q: Have you examined the relationship between EPS growth and GDP growth?

A: Yes, I have. Using data published by Dr. Robert J. Shiller, I calculated the capital appreciation rate of the S&P 500 Index from 1948 to 2014 and compared the results to

[46] U.S. Energy Information Administration, *Annual Energy Outlook 2014*, April 2014, at IF-29.

[47] *See* Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2015 Classic Yearbook, at 200-201, Table A3; at 91, Table 6-7.

the average GDP growth rate over the same period.[48] As shown on Schedule RBH-31, the geometric average growth in earnings from 1948 to 2014 was 5.93 percent, while the geometric average growth in nominal GDP was 6.49 percent over the same period. That analysis demonstrates that there has been a strong correlation between EPS growth for companies in the S&P 500 and nominal GDP growth since at least the post-World War II era. I also note that those growth rates are reasonably consistent with the geometric average capital appreciation rates reported by Morningstar for large-capitalization companies of 7.59 percent over the same period.[49] In addition, those growth rates are consistent with the 6.20 percent nominal GDP growth rate for the period from 1929-2014, which is the period covered by my calculation of long-term real GDP growth.[50]

Q: Is your approach to estimating long-term GDP growth consistent with industry practice?

A: Yes, it is. As noted in my Rebuttal Testimony, even a brief survey of finance texts speaks to the use of long-term GDP growth as a reasonable estimate for the terminal period.[51] Morningstar, for example, describes a three-stage DCF approach (generally consistent with the model included in my Direct and Rebuttal Testimonies) in which the final stage assumes that long-run growth moves toward that of the overall economy. Morningstar describes an approach to calculating the long-term growth estimate that is similar to that which is included in my model in that Morningstar's method also

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48 Note, I reported the average real GDP growth rate over the 1948 – 2014 period in my Rebuttal Testimony. For comparison purposes, I now calculate the nominal GDP growth rate over that same period.

49 *See,* Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2015 Classic Yearbook, at 200-201, Table A3.

50 Source: Bureau of Economic Analysis.

51 *See* Rebuttal Testimony of Robert B. Hevert, at 33-34.

combines historical average real GDP growth rate with a measure of inflation calculated using the TIPS spread.[52]

C. Capital Asset Pricing Model

Q: What are Mr. Marevangepo's concerns with your CAPM analyses?

A: Mr. Marevangepo suggests that the MRP estimates in my Direct Testimony are "unreasonably high" because they are based on market returns calculated using three to five year earnings growth projections.[53]

Q: Did you consider where your MRP estimates fall within the range of historical observations?

A: Yes, I did. Because Mr. Marevangepo concludes that the MRP estimates used in my analyses are "unreasonable," it is instructive to understand how often various ranges of MRPs actually occurred over the 1926 to 2014 period. To perform that analysis, I gathered the annual Market Risk Premia reported by Morningstar and produced a histogram of the observations. The results of that analysis, which are presented in Chart 5 below, demonstrate that MRPs of at least 10.00 percent (generally the range of MRP estimates in my Direct Testimony) have occurred nearly half of the time.

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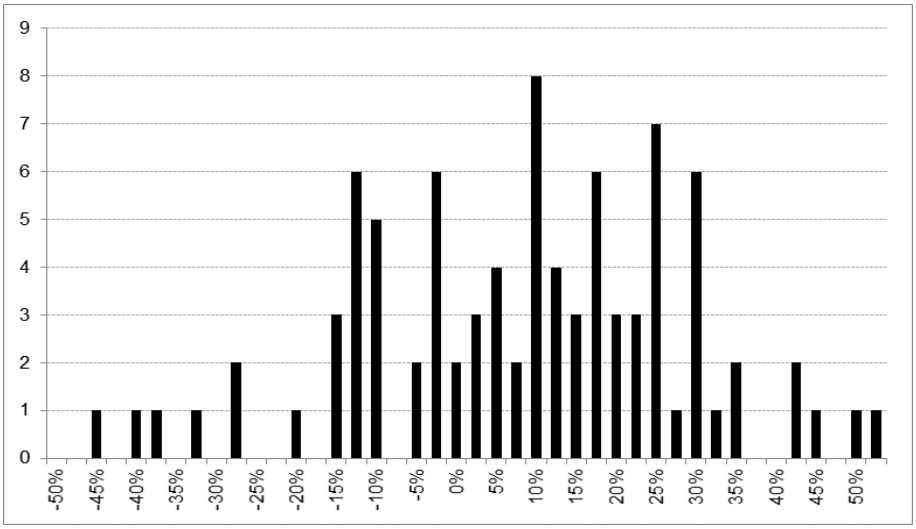
[52] *See* Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2013 Valuation Yearbook, at, at 52.

[53] Rebuttal Testimony of Zephania Marevangepo, at 12.

Chart 5: Frequency Distribution of Market Risk Premia, 1926 - 2014[54]

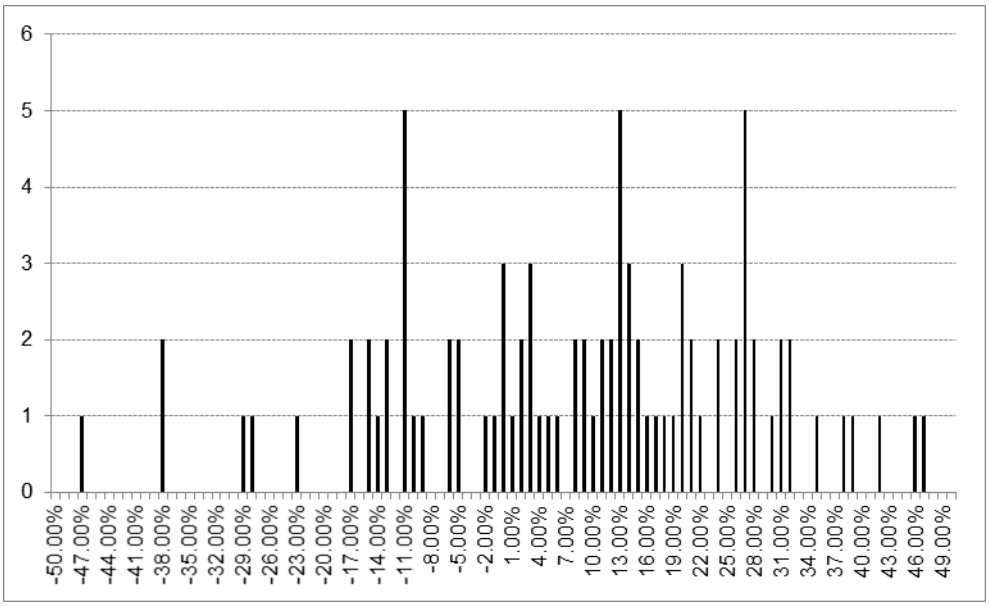


Q: Turning to Mr. Marevangepo's position that the EPS growth rates used to develop your estimated market return are too high, did you consider where your estimates fall within the range of historical observations?

A: Yes. I gathered the annual capital appreciation return on Large Company Stocks reported by Morningstar for the years 1926 through 2014, produced a histogram of those observations, and calculated the probability that a given capital appreciation return estimate would be observed. The results of that analysis, which are presented in Chart 6 (below), demonstrate that capital appreciation rates of 10.00 percent and higher occurred quite often.

[54] Source: Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2015 Classic Yearbook, at 196-197.

Chart 6: Frequency Distribution of Observed Capital Appreciation Rates, 1926 – 2014[55]



In fact, the average growth rates in my Bloomberg and Value Line MRP analyses, represent approximately the 50th percentile of the actual capital appreciation rates observed from 1926 to 2014.

Q: On page 12 of his Rebuttal Testimony, Mr. Marevangepo wonders "[h]ow on earth" you developed the expected market return included in your CAPM analysis, and asserts that it "cannot be corroborated by any reputable investment source." What is your response?

A: Mr. Marevangepo was commenting on the average market return in my Direct Testimony. In my Rebuttal Testimony the average expected return is 12.88 percent (see Schedule RBH-14). As to his question of corroboration, Morningstar calculates the long-term average market return to be 12.10 percent, with a standard deviation of 20.10

[55] Source: Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2015 Classic Yearbook, Table A-3, at 200-201.

percent.[56] My 12.88 percent estimate, therefore, is within less than 4.00 percent of one standard deviation from the long-term mean. To the extent that Mr. Marevangepo considers Morningstar to be a "reputable investment source," there is no reason to conclude that my estimated market return is unreasonable.

Q: Do you have any other concerns with Mr. Marevangepo's assessment of your MRP estimates?

A: Yes. As noted above, there is a significant amount of literature indicating that investors rely on earnings growth rate projections when making investment decisions. In addition, because the Cost of Equity is forward-looking, it is reasonable to rely on forward-looking market return estimates to develop the MRP. Mr. Marevangepo, however, relies on long-term historical data to calculate the MRP and a three-month average of the 30-year Treasury yield to calculate the risk-free rate. As discussed in my Direct and Rebuttal Testimonies, academic research has shown that there is an inverse relationship between interest rates and the equity risk premium, which Mr. Marevangepo fails to consider.[57] Based on that inverse relationship, it is not appropriate to use a historical equity risk premium (*i.e.*, currently 7.00 percent, as reported by Morningstar), as Mr. Marevangepo has done, because that figure is based on an average income-only return on government bonds of 5.07 percent that is substantially higher than the current average yield on government bonds.[58]

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[56] *See* Morningstar, Inc., 2014 Ibbotson Stocks, Bonds, Bills and Inflation Classic Yearbook, at 91.

[57] *See* Direct Testimony of Robert B. Hevert, at 30-31; and Rebuttal Testimony of Robert B. Hevert, at 44-45, 85.

[58] *See* Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2015 Classic Yearbook, Table 6-7 at 91, and Table 11-1 at 142.

If Mr. Marevangepo were to use his arithmetic historical MRP of 6.20 percent, the historical risk-free rate of 5.07 percent, and his beta coefficient estimate of 0.80, his CAPM result would increase from 7.58 to 10.03 percent (*i.e.*, increase by 245 basis points).[59] Moreover, using Morningstar's 6.96 percent historical MRP estimate instead of Mr. Marevangepo's 6.20 percent would produce a CAPM result of 10.64 percent.

D. Use of Authorized Returns as a Measure of the Current Cost of Equity

Q: What are Mr. Marevangepo's concerns with your Risk Premium analyses?

A: Mr. Marevangepo suggests my Bond Yield Plus Risk Premium analysis is inappropriate because he believes public utility commissions have historically authorized ROEs above the actual Cost of Equity.[60]

Q: Do you agree that regulatory commissions typically authorize ROEs above the actual Cost of Equity?

A: No, I do not. The process for determining the appropriate ROE in other jurisdictions is similar to that relied on by this Commission, with multiple expert witnesses providing a variety of analyses and recommendations. With that data in hand, commissioners are well informed and able to determine an appropriate authorized ROE for the subject company based on the available information at the time.

In addition to the information available to the commissioners, most jurisdictions rely on a standard identical or similar to the principles set forth in the Supreme Court's *Hope* and *Bluefield* decisions (as this Commission does). Those standards state that the authorized return must be "just and reasonable" and no more than is necessary while

[59] 5.07% + (0.80 x 6.20%) = 10.03%.
[60] Rebuttal Testimony of Zephania Marevangepo, at 12-13.

allowing investors a reasonable return.[61] Based on the information available from expert witnesses and the *Hope* and *Bluefield* standards, there is no basis to conclude that commissions would consistently provide utilities with returns higher than the Cost of Equity.

Q: Has the Commission provided guidance as to the importance of authorized returns in other jurisdictions in determining the ROE for utilities in Missouri?

A: Yes, it has. As stated in my Rebuttal Testimony, KCP&L must compete for capital with other comparable regulated electric utilities.[62] The Commission, in its Report and Order in Ameren's most recent rate case, provided similar guidance, noting that it is reasonable to review allowed ROEs in other jurisdictions.[63] The Commission further stated that "Ameren Missouri must compete for capital with other utilities" and if it were authorized an ROE well below those of other utilities, it "could limit the company's ability to attract capital and could violate the Hope and Bluefield standard described earlier in this order."[64] As such, authorized returns provide a reasonable benchmark for determining the ROE for KCP&L.

Q: Have you reviewed the most recent authorized ROEs in place at the operating utility companies within the proxy group?

A: Yes, I have. I calculated the range and average ROE authorized for the utility operating companies in my proxy group. As shown in Schedule RBH-32, the average authorized ROE is 10.24 percent, or 99 basis points above Mr. Marevangepo's 9.25 percent ROE

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61 *See* Direct Testimony of Robert B. Hevert, at 7.
62 *See* Rebuttal Testimony of Robert B. Hevert, at 93.
63 *In re Union Elec Co.*, Report and Order at 65, Case No. ER-2014-0258 at 65 (April 29, 2015).
64 *Ibid.*, at 67.

recommendation (the median is 10.17 percent, or 92 basis points above Mr. Marevangepo's recommendation).

III. RESPONSE TO MIEC WITNESS GORMAN

Q: Please briefly summarize Mr. Gorman's recommendation regarding the Company's Cost of Equity.

A: Mr. Gorman continues to recommend an ROE of 9.10 percent, which is the approximate midpoint between his Constant Growth DCF and CAPM estimate (i.e., on average, 8.80 percent) and his Risk Premium approach (9.40 percent).[65] In his Direct Testimony Mr. Gorman stated that his 8.60 percent Growth DCF estimate was "the high end" of his DCF studies and represented a "conservative estimate of a DCF required return on equity".[66] In his Rebuttal Testimony Mr. Gorman states that investors' sentiment regarding utility stocks has produced a robust market, manifesting itself in higher valuation multiples.[67] To support that position, Mr. Gorman provided additional data in his Rebuttal Testimony, in particular average annual P/E ratios, and ratios of Price to Cash Flow.[68]

Q: Has Mr. Gorman's Rebuttal Testimony caused you to change your position regarding the reasonableness of his ROE recommendation?

A: No, it has not. As discussed earlier, Mr. Gorman's recommendation continues to rely on flawed analyses, and remains well below the range of returns authorized for vertically integrated electric utilities.

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65 Rebuttal Testimony of Michael P. Gorman, at 5; Direct Testimony of Michael P. Gorman, at 2, 39.
66 Direct Testimony of Michael P. Gorman, at 27.
67 Rebuttal Testimony of Michael P. Gorman, at 23-24.
68 Schedule MPG-R-3.

A. Capital Market Conditions and Utility Valuation Levels

Q: What is your response to Mr. Gorman at page 23 regarding the current level of utility stock valuations?

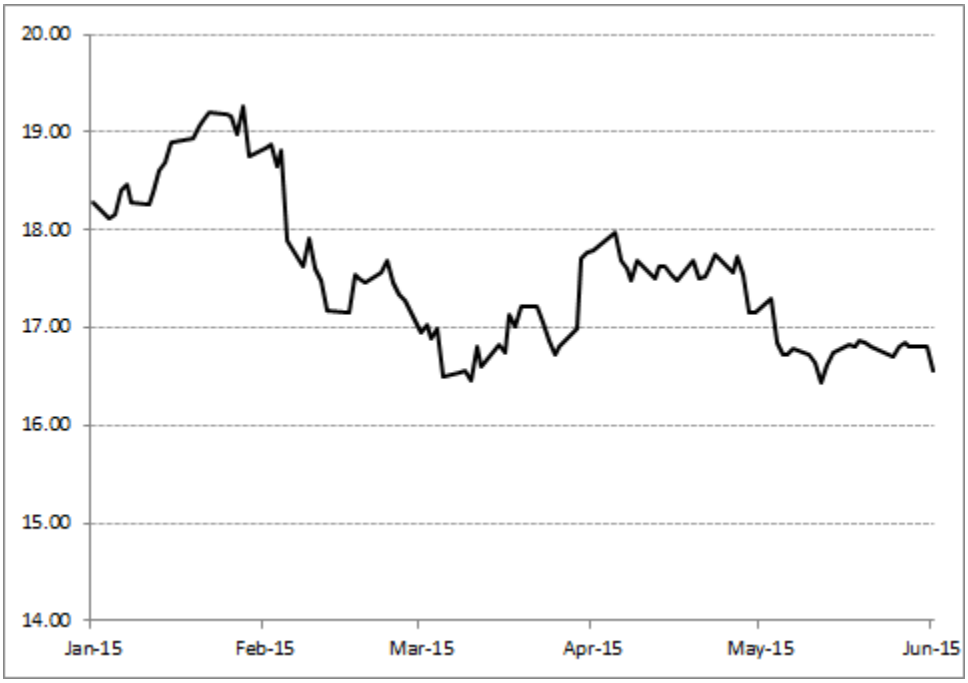
A: First, I agree that the P/E ratios have been above their long-term average. Since it is the case that over time the ratios revert toward their long-term average, it also is true that the current level should not be expected to remain constant in perpetuity, as the Constant Growth DCF model assumes.[69] By relying on that model to establish the lower bound of his recommended range, Mr. Gorman has assumed that the recent P/E ratios will stay in place forever. Such an outcome would require a fundamental shift in the way that investors value utility shares, now and in perpetuity, a shift that Mr. Gorman has not explained.

Q: Have the proxy company P/E ratios recently begun to move down, closer to their longer-term levels?

A: Yes, they have. As Chart 7 (below) indicates, since early 2015, when Mr. Gorman's proxy group average P/E ratio was at its peak, the valuations have begun to decline. Because Mr. Gorman's analysis was based on thirteen and 26-week average prices (as of March 9, 2015), his very low DCF results reflect the period of unusually high valuation ratios. Since Mr. Gorman sets the low end of his recommended range (in part) by reference to his DCF results, his 8.80 percent ROE estimate is unreliable, and should be given no weight.

[69] *See* Rebuttal Testimony of Robert B. Hevert, at 50-51.

Chart 7: Mr. Gorman's Proxy Group Average P/E Ratio[70]



Q: Does the fact that S&P assigns KCP&L an "Excellent" business risk ranking distinguish the Company in any meaningful way from other electric utilities?

A: No, it does not. As a practical matter, approximately two-thirds of the electric utilities rated by S&P have "Excellent" Business Risk profiles. The Company's ranking therefore does not distinguish it from its peers. S&P did mention, however, other factors that it considers to be meaningful, including the Company's 47.00 percent ownership in the Wolf Creek nuclear station, and its generally supportive regulation. At the same time, S&P noted that a downside risk includes rate case outcomes consistently less than expected, materially rising regulatory lag, and increased debt-financed capital investments.[71]

[70] Source: Bloomberg.
[71] Standard & Poor's Ratings Services, *Kansas City Power & Light Co.*, May 2, 2014, at 4.

As noted earlier in my Surrebuttal Testimony, Mr. Gorman's 9.10 percent ROE is well below industry averages, including the Commission's recent Ameren decision. And as discussed in my response to Mr. Marevangepo, industry analysts already have begun to comment on the Ameren ROE in both absolute (i.e., Morningstar's report) and relative (RRA's report) terms. In light of S&P's concerns with downside risks, it is difficult to understand how Mr. Gorman's recommendation will be supportive of the Company's financial integrity and ability to attract capital.

Nonetheless, Mr. Gorman has taken measures of creditworthiness for debt investors and applied them to principles of equity risk. As discussed in my Direct Testimony at page 5, the two have common issues, but only to a point. In the final analysis, equity investors bear the residual risk of equity ownership in perpetuity. Debt investors, on the other hand, are concerned with the issuing company's ability to meet its near-term financial obligations. Consequently, although Business Risk profiles are informative, they are not full measures of equity risk. If equity investors had the same objectives and concerns as debt investors, there would not be a role for the equity analysts that provide the earnings growth rate forecasts provided in Mr. Gorman's Schedule MPG-3 to his Direct Testimony. An example of that distinction is Great Plains Energy's Beta Coefficient, which is well above Mr. Gorman's proxy group average and demonstrates above average risk, even though its corporate credit rating is consistent with the group.

B. Discounted Cash Flow Model Analyses

Q: At pages 10 and 11 of his Rebuttal Testimony, Mr. Gorman suggests that your mean and mean low Constant Growth DCF results are the better measures of "central

tendency" since they are based on growth rates similar to his view of long-term GDP growth. What is your response to Mr. Gorman?

A: Mr. Gorman's view that the range of results presented in my testimony, in particular the "mean high" Constant Growth DCF results do not represent some measure of "central tendency" is misplaced on several levels. First, the relevant issue is not what growth rate Mr. Gorman may or may not find acceptable. Rather, it is what growth rate investors use in forming their investment decisions. As discussed in my Rebuttal Testimony at pages 52 – 55 (in response to Ms. Reno), published research, as well as my own analyses demonstrate that analyst earnings growth rate projections are the proper measure of growth, and that investors rely on those growth rates in forming their investment decisions. Mr. Gorman suggests that those growth rates should be constrained by his view of the proper measure of long-term GDP growth, but he presents no analyses or authority to support his position.

Second, if Mr. Gorman believes that the market-required ROE is as low as 8.35 percent,[72] his position is far afield from currently authorized returns. Whereas Mr. Gorman concludes that ROE estimates in the range of 8.35 percent are better measures of central tendency because they are based on growth rates that conform to GDP growth projections, the central tendency of authorized returns has been approximately 9.93 percent.

Lastly, ROE estimates in the range of 8.35 percent have been considered and rejected by the Commission in prior proceedings.[73] As noted earlier in my Surrebuttal Testimony, Staff has recognized that the Commission does not consider such low ROE

[72] *See* Schedule RBH-1, at 2 of 3.

estimates to be reasonable estimates of the Company's Cost of Equity. Regardless of whether Mr. Gorman believes those estimates are proper measures of "central tendency," they clearly are not reasonable measures of the Company's Cost of Equity.

Q: At page 15 of his Rebuttal Testimony, Mr. Gorman takes issue with the long-term payout ratio included in your Multi-Stage DCF analysis. What is your response to Mr. Gorman on that point?

A: Mr. Gorman states that my "long-term growth rate is based on Value Line's three- to five-year projected dividend payout of the electric utility industry."[74] He is incorrect. As stated in my Direct Testimony at page 25, I assumed that over time the payout ratio would converge to the long-term industry average of 67.23 percent, not Value Line's three to five year projection. That long-term average represents median payout ratios for 47 electric utility companies for the years 1990 through 2013. According to the National Bureau of Economic Research, during that period the U.S. economy underwent three economic cycles.[75] As such, there should be no concern that the average may be distorted by economic conditions at a given point in time.

As to the assumption that the payout ratio will revert to its long-term mean, Mr. Gorman uses a similar historical period in his Risk Premium analysis, noting (at page 30 of his Direct Testimony) that "[w]hile market conditions and risk premiums do vary over time, this historical time period is a reasonable period to estimate contemporary risk premiums." Given his use of historical data, it is not clear why Mr. Gorman would find the long-term average payout ratio used in my analysis to be objectionable.

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[73] Report and Order, Case No. ER-2012-0174 at 22.
[74] Rebuttal Testimony of Michael P. Gorman, at 15.

Q: At page 13 of his Rebuttal Testimony, Mr. Gorman asserts that in your Multi-Stage DCF analysis you "manipulate" the timing of dividend payments. What is your response to Mr. Gorman?

A: Mr. Gorman's criticism is misplaced. At issue is whether it is appropriate to assume, as Mr. Gorman does, that dividends are received at year-end, or whether it is better to approximate the effect of quarterly dividends by assuming that they are received, on average, one-half way through the year. The "mid-year convention" that I applied in my approach, assumes the latter and is very consistent with industry practice. As Duff & Phelps notes:

> Common practice in business valuation is to assume that the net cash flows are received on average continuously throughout the year (approximately equivalent to receiving the nets cash flows in the middle of the year), in which case the present value factor is generally based on a mid-year convention (e.g., $(1+k)^{0.5}$).[76]

Mr. Gorman, on the other hand, assumes that dividends paid in the first quarter of a given year are not received until the end of the year. Because discounting reflects the time value of money, Mr. Gorman's approach unreasonably decreases the value of dividends received prior to the fourth quarter. As shown in Schedule RBH-33, the mid-year convention more closely approximates the quarterly receipt of dividend payments than does Mr. Gorman's year-end convention, which serves to reduce his ROE estimate.

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[75] http://www.nber.org/cycles/US_Business_Cycle_Expansions_and_Contractions_20120423.pdf. Accessed May 27, 2015.

[76] Duff & Phelps, 2015 Valuation Handbook, Guide to Cost of Capital, at 1-4.

C. Capital Asset Pricing Model Analysis

Q: What are Mr. Gorman's objections to your CAPM analysis?

A: Yes, Mr. Gorman asserts at page 17 of his Rebuttal Testimony that my DCF-derived MRP estimate is based on a growth rate component that is "far too high" to be a "sustainable" growth rate.

Q: What is the basis of Mr. Gorman's claim that your DCF-derived market return is not sustainable?

A: Mr. Gorman notes that the earnings growth rate component of my DCF-derived market return is higher than estimates of long-term nominal GDP growth and, on that basis, concludes that those projections are "far too high to be a rational outlook for sustainable long-term market growth."[77] Mr. Gorman supports his position at page 18 of his Rebuttal Testimony by noting that "Morningstar estimates the actual capital appreciation for the S&P 500 over the period 1926 through 2013 to have been 5.8% to 7.7%." Adding the market average dividend yield of 1.80 percent to 1.90 percent to the high 7.70 percent rate of growth, Mr. Gorman concludes that a reasonable expectation of the total market return would be in the range of 9.50 percent to 9.60 percent.[78]

Q: Do you agree with Mr. Gorman's position?

A: No, I do not. Since Mr. Gorman supports his position in terms of the historical rate of capital appreciation, it also is appropriate to consider the expected market return in the context of historical total market returns. As noted earlier, the long-term average market return was 12.10 percent, or 255 basis points above Mr. Gorman's 9.55 percent (average)

[77] Rebuttal Testimony of Michael P. Gorman, at 17.

estimate.[79] The expected return calculated in my Rebuttal Testimony, on the other hand, is within 78 basis points of the long-term average. That is, Mr. Gorman's estimate is more than three times farther from the long-term average than my estimate. Thus, if Mr. Gorman is of the view that my estimated market returns are "not reliable"[80], his would be much less reliable.

Q: Mr. Gorman continues to assert that there is not an inverse relationship between interest rates and the equity risk premiums. Do the facts support his position?

A: No. Mr. Gorman continues to reject the principle that the two are inversely related because such a finding "is not supported by academic research."[81] He suggests that while there has been an inverse relationship between these variables in the past, the relationship is explained by the variability of interest rates, the relative risk of debt and equity investments, and inflation expectations. He argues at page 19 of his Rebuttal Testimony that interest rates alone provide too "simplistic" an explanation.

However, the data reflecting over 1,400 daily observations contained in the study provided in my Rebuttal Testimony,[82] as well as in the 29 annual observations taken from Mr. Gorman's Schedules MPG-11 and MPG-12[83] clearly show that as interest rates fall, the equity risk premium increases. Mr. Gorman has not challenged the validity of those results. Rather, he suggests that other factors are at play, and that by not reflecting those

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78 Rebuttal Testimony of Michael P. Gorman, at 18.
79 Morningstar, Inc., 2014 Ibbotson Stocks, Bonds, Bills and Inflation Classic Yearbook, at 91.
80 Rebuttal Testimony of Michael P. Gorman, at 18.
81 Rebuttal Testimony of Michael P. Gorman, at 19.
82 *See* Schedule RBH-17.
83 *See* Schedule RBH-28. Additionally, at pages 85 - 86 of my Rebuttal Testimony, I cite several publications in academic literature that confirms that there is an inverse relationship between interest rates and equity risk premiums.

factors, the results are somehow unreliable. Despite his concerns, Mr. Gorman does not undertake any empirical analyses to support or test his hypothesis.

Although he suggests that factors such as the relative risk of debt and equity investments and expected inflation may negate the effect of interest rates on the equity risk premium, Mr. Gorman did not test his theory. Using the data contained in Schedule MPG-13, I undertook several analyses to do so. To assess the probability that the relative risk of equity and debt would affect the relationship between interest rates and the equity risk premium, I first calculated the "credit spread", or the differences between: (1) the Moody's A-Utility Bond yield and the 30-year Treasury yield; (2) the Moody's Baa-Utility Bond yield and the 30-Year Treasury yield; and (3) the difference between the Moody's A and Baa-Utility Bond yields. Those credit spreads reflect the incremental risk associated with utility debt.[84] To reflect the risk of equity investments, I calculated the average annual market volatility rate based on the CBOE Market Volatility Index ("VIX") since 1990, the first year for which data is available. I then performed a series of regression analyses in which the equity risk premium is the dependent variable, and various combinations of credit spreads and the VIX were the explanatory variables.[85] There were three principal findings from those analyses (*see* Schedule RBH-34):

1. None of the credit spread variables, alone or in combination, negated the statistically significant inverse relationship between interest rates and the equity risk premium.

[84] The 2014 difference between the A and Baa yields was somewhat higher than the long-term average, indicating that the cost of lower credit ratings is somewhat higher than it had been over the long-term. Source: Schedule MPG-13.

2. There is a high degree of correlation between credit spreads and the VIX, indicating that the two move closely together. That is, the "relative risk" of the two is not a meaningful factor.
3. Regardless of what combinations of credit spreads and the VIX are used, based on Mr. Gorman's expected long-term Treasury yield of 3.70 percent the expected ROE falls in the rather narrow range of 10.04 percent to 10.10 percent. Although at the lower end, all are within my recommended ROE range of 10.00 percent to 10.60 percent.

Lastly, I considered Mr. Gorman's view that expected inflation may affect the relationship between interest rates and the equity risk premium by calculating the average annual "TIPS spread" (that is, the difference between nominal and inflation-indexed Treasury yields) over five, seven and ten-year terms. As noted in my Direct Testimony, the TIPS spread represents investors' collective views regarding long-term inflation. As shown in Schedule RBH-35 data regarding inflation-indexed Treasury yields is available beginning in 2003, and provides thirteen years of data. Those results indicate that expected inflation does not affect the statistically significant, inverse relationship between interest rates and the equity risk premium.[86]

In summary, Mr. Gorman continues to deny the inverse relationship between interest rates and equity risk premiums despite empirical evidence demonstrating that relationship exists, including a study using his own data. In addition, none of the factors

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[85] I performed a Durbin-Watson test to check for autocorrelation on all of the regression analyses in Schedule RBH-34. The results of the tests showed either no significant autocorrelation or fell in the "inconclusive" range.

[86] The Durbin-Watson test was performed to test for autocorrelation. The result was inconclusive, which is common among datasets with small sample sizes.

that Mr. Gorman suggests may affect the relationship between interest rates and the equity risk premium did so. In fact, based on Mr. Gorman's assumed 3.70 percent Treasury yield and based (in large measure) on data from his own schedules, the ROE derived from the Risk Premium approach ranges from 10.04 percent to 10.10 percent.

Q: Lastly, has the Commission found that interest rates and the equity risk premium are inversely related?

A: Yes, as discussed in my Rebuttal Testimony at page 86, the Commission made this finding in its Report and Order on page 22 in KCP&L's last rate case, Case No. ER-2012-0174.

D. Effect of Regulatory Mechanisms on the Cost of Equity

Q: Did Mr. Gorman address the question of the relationship between regulatory mechanisms and the Company's Cost of Equity?

A: Yes, but only in a very general sense. In his Direct Testimony, Mr. Gorman deferred a discussion of that issue to his Rebuttal Testimony.[87] In his Rebuttal Testimony Mr. Gorman simply stated that his 9.10 percent ROE recommendation is based on the Company's existing risk, and that if new mechanisms are implemented, that risk would be reduced. In that case, Mr. Gorman recommends an ROE somewhere between the low end of his range (8.80 percent) and his 9.10 percent recommendation.

In response to discovery request KCPL-MIEC-11, which asked whether Mr. Gorman relied on any authority (academic or trade literature, statutory provisions, regulatory or judicial case law precedent, etc.) for his conclusion that regulatory

[87] Direct Testimony of Michael P. Gorman, at 3.

mechanisms that reduce risk should be considered in awarding a return lower than his ROE recommendation, MIEC pointed to pages four to eleven of Mr. Gorman's Direct Testimony. MIEC goes on to summarize those pages, which speak to credit analysts' assessments of the Company's risks, including the regulatory environment in Missouri. MIEC concludes by stating that Mr. Gorman's assessment of the decline in risk are based on his review of "industry data concerning electric utility investment risk and investment risk for KCPL specifically."

Q: What is your response to Mr. Gorman's and MIEC's positions in that regard?

A: Their responses are lacking in several respects. First, as discussed at pages 90 to 92 of my Rebuttal Testimony, the relevant analytical issue is whether the regulatory mechanisms would render the Company so less risky than its peers that equity investors would specifically and measurably reduce their return requirements as a result of the structures. That is, because we are assessing the Cost of Equity, and the Cost of Equity is rooted in the concept of opportunity costs, the relevant perspective is comparative, not absolute. Neither Mr. Gorman nor MIEC provided any such analysis. Rather, they assumed the outcome – that the Cost of Equity would decline – and looked to credit analysts to support that assumption. Looking only at the proposed Fuel Adjustment Clause ("FAC"), my Rebuttal Testimony (at page 92) found that 38 of the 40 vertically integrated electric utilities in the Combined Proxy Group had fuel cost recovery mechanisms in place. Clearly, implementing a mechanism at KCP&L would not distinguish the Company from its peers.

Second, Mr. Gorman again assumes that the risk tolerances and investment objectives of equity investors are fully and seamlessly extrapolated to equity investors.

That is not the case. Even if credit assessments were a complete measure of equity risk, neither Mr. Gorman nor MIEC have demonstrated that the Company's credit rating would be improved by the multiple "notches" required to meaningfully place it above the proxy group and, therefore, reduce its cost of borrowing.

Third, in the context of the CAPM, on which Mr. Gorman relies to establish the low end of his range, a reduction in the Cost of Equity would only come about if the Company's systematic risk was reduced. Because he relied only on credit assessments, Mr. Gorman did not consider whether the equity risk being mitigated is systematic or not, or how that mitigation would translate to Beta coefficients, the acknowledged measure of systematic risk.

Considering the near-universal nature of FACs, any effect of those mechanisms is reflected in the proxy companies used to estimate the Company's Cost of Equity. As a consequence, implementing an FAC simply would make the Company more comparable to its peers. The relevant question, then, is how much more risk the Company faces without an FAC in place, and how that additional risk should be factored into the Company's Cost of Equity. If the FAC is risk-mitigating, given that nearly all vertically integrated electric utilities have those structures in place, the Company currently is receiving the same return as its peers (assuming an ROE based on proxy companies), but is taking on more risk than its peers. Mr. Gorman's position is that the Company should face the same risk as its peers, but receive a lower return. That position is contrary to the market efficiency that Mr. Gorman and MIEC have assumed in their response to KCPL-MIEC-11.

Q: Is it possible to quantify the effect of not having an FAC on the Company's Cost of Equity?

A: I believe it is possible to establish a general range, but not a precise estimate. The reason is that state utility commissions have almost universally approved the adoption of FACs for vertically integrated electric utilities. Consequently, we cannot directly quantify a difference in required returns for companies with FACs, and companies without FACs.

Q: Are you aware of any prior published research on this issue?

A: Yes. But, because FACs have been in place for so long, the associated research is somewhat dated. However, a 1980 article in the Journal of Finance addressed the issue of whether FACs affect the systematic risk and market values of electric utilities. The article concluded that for several years in the early 1970's FACs had the effect of decreasing systematic risk (that is, Beta coefficients) by approximately 10.00 percent. However, the magnitude of the change was related to the composition of the subject company's fuel portfolio, in that companies with oil- or gas-fired generations saw greater changes than companies whose portfolios were principally coal-fired.[88]

Q: Did that article present an analytical framework that can be applied in the current market?

A: Yes, in part. The principal approach was based on segregating electric utilities into two groups: (1) companies with FACs, and (2) companies without FACs. As noted above, because they now are so common, that approach no longer can be applied. However, the

[88] Roger G. Clarke, *The Effect of Fuel Adjustment Clauses on the Systematic Risk and Market Values of Electric Utilities*, The Journal of Finance, May 1980, at 357. The article also noted that the use of FACs did not produce "windfall gains" for stockholders.

article did suggest that to the extent that fuel costs are inversely related to overall market returns, FACs may be reflected in Beta coefficients.

Systematic risk is a measure of the extent to which a given company's returns are related to the overall market return. If, for example, an FAC were to reduce the effect of increasing fuel costs on net income, that reduction would relate to an increase in net income and, therefore, in returns.[89] So, a negative relationship between fuel costs and market returns implies a positive relationship between earnings and market returns. Therefore, if an FAC reduces the correlation between a company's return and the overall market return, it would reduce that company's observed Beta coefficient.

Q: Have you analyzed whether fuel costs have been correlated with market returns?

A: Yes, I have. For the years 1992 through 2013, I reviewed the relationship between (1) the annual change in the Great Plains Energy Inc.'s' annual fuel costs, and (2) the market return, as provided by Morningstar. I found that the relationship was both negative and statistically significant (at the 90.00 percent confidence level).[90] Those findings are consistent with the hypothesis that the effect of FACs are reflected in current Beta coefficients. That said, systematic risk may be affected by a number of factors, and it is difficult to attribute any portion of Beta coefficients to a given factor, such as FACs. Nonetheless, there is reason to assume that the Company's lack of an FAC may be reflected, at least in part, in Great Plains Energy's Beta coefficient, which exceeds the proxy group average.

[89] The converse also would be true.
[90] The Durbin-Watson test did not indicate the presence of serial correlation.

Q: With that information, did you estimate the range by which the Company's Cost of Equity is higher than it otherwise would be due to the lack of an FAC?

A: Yes. I first reviewed the Value Line Beta coefficients provided in Schedule MPG-15 to Mr. Gorman's testimony, the average of which is 0.74. I then divided that amount by 90.00 percent, which is the reduction in systematic risk noted in the Clarke article. That calculation produces an adjusted Beta coefficient of 0.82, or 0.08 higher than the group average Beta coefficient. Great Plains Energy's Beta coefficient (as reported by Value Line on March 20, 2015) is 0.85, only somewhat higher than the adjusted Beta (*i.e.*, 0.82), but well above the proxy group average reported by Mr. Gorman (*i.e.*, 0.74).

In the context of the CAPM, the effect on the Cost of Equity is calculated as the product of the Beta coefficient adjustment (0.08) and the expected MRP.[91] I refer to that result, which is 0.82 percent, as the "Cost of Equity Effect." Because it is difficult to attribute proportions of the Beta coefficient to an individual factor, as noted above, I applied weights in 25 basis point increments (beginning at 25.00 percent) to the Cost of Equity Effect, producing a range of estimates from 21 basis points to 82 basis points (see Table 3, below). Assuming that the most likely outcome is toward the mid-section of the range, the effect of not having an FAC on the Cost of Equity would be in the range of 41 to 62 basis points, rounded to 40 to 60 basis points.

[91] For expected MRP I used the average of the Bloomberg and Value Line-derived estimates contained in Schedule RBH-16 to my Rebuttal Testimony.

Table 3: Range of Potential FAC Effects on the Cost of Equity[92]

POTENTIAL Cost of Equity Effect	Weighting Factors	Weighted Cost of Equity Effect
0.82%	100.00%	0.82%
0.82%	*75.00%*	*0.62%*
0.82%	*50.00%*	*0.41%*
0.82%	25.00%	0.21%

It is important to keep in mind that the estimates noted above reflect the potential effect of *not* having an FAC in place. As noted earlier, because FACs are so prevalent, implementing the structure would only make the Company more comparable to its peers, and therefore would not require a downward adjustment to the Cost of Equity. Rather, it is the lack of an FAC that requires an upward adjustment to the Cost of Equity. Consequently, to the extent that like Mr. Gorman, Ms. Reno's and Mr. Marevangepo's ROE recommendations do not contemplate the implementation of an FAC, and without regard for my other criticisms of their recommendations, their estimates should be adjusted upward by the 40 to 60 basis point range discussed above.

IV. CONCLUSIONS AND RECOMMENDATION

Q: Do you have any observations regarding recent economic and capital market data that would affect the Cost of Equity?

A: Yes. Since the first quarter of 2015, and even since April 29, 2015 when the Commission issued its Order Case No. ER-2014-0258 (the recent Ameren rate case), capital market

[92] Please note that based on the 6.90 percent average MRP included in Mr. Gorman's Schedule MPG-16, the Weighted Cost of Equity Effects would be 14 basis points, 28 basis points, 41 basis points, and 55 basis points for the 25%, 50%, 75%, and 100% weighting factors, respectively. Assuming that the 50% and 75% weights

and general economic indicators have changed, indicating expanding macroeconomic growth and increased required returns. For example:

- The 30-year Treasury yield *increased* by over 35 basis points, from 2.74 percent to approximately 3.10 percent;[93]
- The Moody's Baa Utility Index yield *increased* by 36 basis points;[94]
- Federal Reserve Chair Janet Yellen stated that "it will be appropriate at some point this year to take the initial step to raise the federal funds rate target and begin the process of normalizing monetary policy;"[95]
- The implied probability of at least a 25 basis point increase in the federal funds rate by October 2015 was over 85.00 percent;[96]
- The reported U.S. trade deficit *decreased* by 19.20 percent, the sharpest decline in over six years;[97]
- The reported seasonally adjusted annual rate of privately owned housing starts *increased* by 20.40 percent over the prior month;[98]
- The Institute of Supply Management noted that manufacturing activity continued to expand in May, for the 29th consecutive month; and
- The XLU, a utility exchange-traded fund, *decreased* by over 3.00 percent.[99]

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are most likely, the effect on the Cost of Equity would be in the range of 28 to 41 basis points (rounded to 30 to 40 basis points).

93 As of June 3, 2015. Source: Yahoo Finance, accessed June 3, 2015.

94 Source: Bloomberg. Data as of June 2, 2015.

95 *The Outlook for the Economy*, Remarks by Janet L. Yellen Chair Board of Governors of the Federal Reserve System at Providence Chamber of Commerce, May 22, 2015, at 9.

96 http://www.cmegroup.com/trading/interest-rates/fed-funds.html Accessed June 3, 2015.

97 *U.S. Trade Gap Shrinks by 19%, Most in Six Years*, The Wall Street Journal, June 3, 2015.

98 U.S. Census Bureau News Joint Release U.S. Department of Housing and Urban Development, dated May 19, 2015.

99 Source: Yahoo Finance, accessed June 4, 2015

Q: What is your conclusion regarding the Company's Cost of Equity?

A: Based on the analyses discussed throughout my Rebuttal Testimony, I conclude that the reasonable range of ROE estimates is from 10.00 percent to 10.60 percent, and within that range, 10.30 percent is a reasonable and appropriate estimate of the Company's Cost of Equity. The results of the updated DCF, CAPM, and Bond Yield Plus Risk Premium analyses, along with my analyses of economic and capital market data, authorized returns in other regulatory jurisdictions, and assessment of rating agency concerns and criteria support the reasonableness of my range of ROE estimates and my recommendation.

Q: Does this conclude your Surrebuttal Testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light Company's Request for Authority to Implement A General Rate Increase for Electric Service	)))	Case No. ER-2014-0370

AFFIDAVIT OF ROBERT B. HEVERT

COMMONWEALTH OF MASSACHUSETTS)
) ss
COUNTY OF MIDDLESEX)

Robert B. Hevert, being first duly sworn on his oath, states:

1. My name is Robert B. Hevert and my business address is Sussex Economic Advisors, LLC, 161 Worcester Road, Suite 503, Framingham, MA 01701. I have been retained to serve as an expert witness to provide testimony on behalf of Kansas City Power & Light Company.

2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of Kansas City Power & Light Company consisting of forty-eight (48) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Robert B. Hevert

Subscribed and sworn before me this 5th day of June, 2015.

Notary Public

My commission expires: March 11, 2022

KIMBERLY H. DAO
MY COMM. EXPIRES MARCH 11, 2022
NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS

Nominal Growth in U.S. GDP and S&P 500 Earnings: 1948 - 2014

	[1]	[2]
Year	GDP in Current Dollars ($ Billions)	S&P 500 Earnings
1948	274.80	2.29
1949	272.90	2.32
1950	300.20	2.84
1951	347.30	2.44
1952	367.70	2.40
1953	389.80	2.51
1954	391.10	2.77
1955	426.20	3.62
1956	450.20	3.41
1957	474.90	3.37
1958	482.10	2.89
1959	522.50	3.39
1960	543.30	3.27
1961	563.30	3.19
1962	605.10	3.67
1963	638.60	4.02
1964	685.80	4.55
1965	743.70	5.19
1966	815.10	5.55
1967	861.70	5.33
1968	942.50	5.76
1969	1,019.90	5.78
1970	1,075.90	5.13
1971	1,167.80	5.70
1972	1,282.40	6.42
1973	1,428.60	8.16
1974	1,548.80	8.89
1975	1,688.90	7.96
1976	1,877.60	9.91
1977	2,086.00	10.89
1978	2,356.60	12.33
1979	2,632.20	14.86
1980	2,862.50	14.82
1981	3,211.00	15.36
1982	3,345.00	12.64
1983	3,638.10	14.03
1984	4,040.70	16.64
1985	4,346.80	14.61
1986	4,590.10	14.48
1987	4,870.20	17.50
1988	5,252.60	23.76
1989	5,657.70	22.90
1990	5,979.60	21.34
1991	6,174.10	15.97

Year	GDP in Current Dollars ($ Billions)	S&P 500 Earnings
1992	6,539.30	19.09
1993	6,878.70	21.88
1994	7,308.80	30.60
1995	7,664.10	33.96
1996	8,100.20	38.73
1997	8,608.50	39.72
1998	9,089.20	37.71
1999	9,660.60	48.17
2000	10,284.80	50.00
2001	10,621.80	24.69
2002	10,977.50	27.59
2003	11,510.70	48.74
2004	12,274.90	58.55
2005	13,093.70	69.93
2006	13,855.90	81.51
2007	14,477.60	66.18
2008	14,718.60	14.88
2009	14,418.70	50.97
2010	14,964.40	77.35
2011	15,517.90	86.95
2012	16,163.20	86.51
2013	16,768.10	100.20
2014	17,418.90	102.31
Compound Annual Average:	6.49%	5.93%

Notes:
[1] Source: FRED, Federal Reserve Bank of St. Louis
[2] Source: http://www.econ.yale.edu/~shiller/data.htm.

Most Recent Authorized Return on Equity - Proxy Group Operating Utilities

Date	Company	Ticker	Docket Number	Jurisdiction	Authorized ROE
3/30/2011	Appalachian Power Company	AEP	C-10-0699-E-42T	WV	10.00
12/14/2011	Columbus Southern Power Company	AEP	C-11-0351-EL-AIR	OH	10.00
12/14/2011	Ohio Power Company	AEP	C-11-0352-EL-AIR	OH	10.30
11/22/2013	Kentucky Power Company	AEP	C-2013-00197	KY	NA
5/9/1983	Wheeling Power Company	AEP	C-82-334-E-42T	WV	NA
11/26/2014	Appalachian Power Company	AEP	C-PUE-2014-00026	VA	9.70
2/15/2012	Indiana Michigan Power Company	AEP	C-U-16801	MI	10.20
2/13/2013	Indiana Michigan Power Company	AEP	Ca-44075	IN	10.20
4/14/2015	Public Service Company of Oklahoma	AEP	Ca-PUD201300217	OK	NA
11/24/2009	Southwestern Electric Power Company	AEP	D-09-008-U	AR	10.25
12/13/2007	AEP Texas Central Company	AEP	D-33309	TX	9.96
5/24/2007	AEP Texas North Company	AEP	D-33310	TX	NA
10/3/2013	Southwestern Electric Power Company	AEP	D-40443	TX	9.65
11/3/1992	Kingsport Power Company	AEP	D-92-04425	TN	12.00
2/27/2013	Southwestern Electric Power Company	AEP	D-U-32220	LA	10.00
5/1/2013	Duke Energy Ohio, Inc.	DUK	C-12-1682-EL-AIR	OH	9.84
12/21/2006	Duke Energy Kentucky, Inc.	DUK	C-2006-00172	KY	NA
5/18/2004	Duke Energy Indiana, Inc.	DUK	Ca-42359	IN	10.50
2/22/2012	Duke Energy Florida, Inc.	DUK	D-120022-EI	FL	NA
9/11/2013	Duke Energy Carolinas, LLC	DUK	D-2013-59-E	SC	10.20
8/29/1988	Duke Energy Progress, Inc.	DUK	D-88-11-E O-88-864	SC	12.75
5/30/2013	Duke Energy Progress, Inc.	DUK	D-E-2, Sub 1023	NC	10.20
9/24/2013	Duke Energy Carolinas, LLC	DUK	D-E-7, Sub 1026	NC	10.20
2/27/2013	Empire District Electric Company	EDE	C-ER-2012-0345	MO	NA
6/23/2010	Empire District Electric Company	EDE	D-10-EPDE-314-RTS	KS	NA
1/30/2009	Idaho Power Co.	IDA	C-IPC-E-08-10	ID	10.50
2/23/2012	Idaho Power Co.	IDA	D-UE-233	OR	9.90
12/17/2014	Connecticut Light and Power Company	ES	D-14-05-06	CT	9.17
6/28/2010	Public Service Company of New Hampshire	ES	D-DE-09-035	NH	9.67
1/31/2011	Western Massachusetts Electric Company	ES	DPU 10-70	MA	9.60
12/30/2005	NSTAR Electric Company	ES	DTE-05-85 (elec.)	MA	NA
11/25/2009	Otter Tail Power Company	OTTR	C-PU-08-862	ND	10.75
4/25/2011	Otter Tail Power Company	OTTR	D-E-017/GR-10-239	MN	10.74
5/15/2012	Arizona Public Service Company	PNW	D-E-01345A-11-0224	AZ	10.00
5/13/2015	Public Service Company of New Mexico	PNM	C-14-00332-UT	NM	NA
1/22/2002	Texas-New Mexico Power Company	PNM	C-3643	NM	10.00
1/20/2011	Texas-New Mexico Power Company	PNM	D-38480	TX	10.13
12/4/2014	Portland General Electric Company	POR	D-UE-283	OR	9.68
12/3/2013	Gulf Power Company	SO	D-130140-EI	FL	10.25
10/12/1982	Alabama Power Company	SO	D-18416	AL	NA
5/25/2005	Savannah Electric and Power Company	SO	D-19758-U	GA	10.75
3/5/2013	Mississippi Power Company	SO	D-2013-UN-0014	MI	9.70
12/17/2013	Georgia Power Company	SO	D-36989	GA	10.95
11/21/2013	Westar Energy, Inc.	WR	D-13-WSEE-629-RTS	KS	10.00
1/27/2010	Kansas Gas and Electric Company	WR	D-09-WSEE-925-RTS (KG&E)	KS	10.40
				Mean:	10.24
				Median:	10.17

Notes:

Source: SNL Financial

Mid Year Convention Example

Assumptions	
Disount Rate	10.30%
Quarterly Discount Rate	2.48%
Year-End Present Value Factor	0.9066
Mid-year Present Value Factor	0.9522
Assumed Annual Dividend	$ 1.00

Quarter	1	2	3	4	Total
Present Value Factor	0.9758	0.9522	0.9291	0.9066	
Nominal Amount	$ -	$ -	$ -	$ 1.00	$ 1.00
Present Value	$ -	$ -	$ -	$ 0.91	$ 0.91
Nominal Amount	$ 0.250	$ 0.250	$ 0.250	$ 0.250	$ 1.00
Present Value	$ 0.24	$ 0.24	$ 0.23	$ 0.23	$ 0.94
Difference in Present Value					$ (0.03)
Mid-Year Convention Present Value					$ 0.95
Difference in Present Value					$ 0.01

Equity Risk Premium and Interest Rate Regression Analysis

						CORRELATION TO VIX			
						80.4%	84.14%	41.9%	
	ROE [1]	"A" UTIILITY BOND YIELD [2]	"Baa" UTILITY BOND YIELD [2]	TREASURY YIELD [2]	RISK PREMIUM	A-TREAS. CREDIT SPRD	Baa-TREAS. CREDIT SPRD	A-Baa CREDIT SPRD	VIX [3]
1990	12.70%	9.86%	10.06%	8.61%	4.09%	1.25%	1.45%	0.20%	23.06
1991	12.55%	9.36%	9.55%	8.14%	4.41%	1.22%	1.41%	0.19%	18.37
1992	12.09%	8.69%	8.86%	7.67%	4.42%	1.02%	1.19%	0.17%	15.45
1993	11.41%	7.59%	7.91%	6.60%	4.81%	0.99%	1.31%	0.32%	12.69
1994	11.34%	8.31%	8.63%	7.37%	3.97%	0.94%	1.26%	0.32%	13.93
1995	11.55%	7.89%	8.29%	6.88%	4.67%	1.01%	1.41%	0.40%	12.39
1996	11.39%	7.75%	8.17%	6.70%	4.69%	1.05%	1.47%	0.42%	16.44
1997	11.40%	7.60%	7.95%	6.61%	4.79%	0.99%	1.34%	0.35%	22.36
1998	11.66%	7.04%	7.26%	5.58%	6.08%	1.46%	1.68%	0.22%	25.60
1999	10.77%	7.62%	7.88%	5.87%	4.90%	1.75%	2.01%	0.26%	24.37
2000	11.43%	8.24%	8.36%	5.94%	5.49%	2.30%	2.42%	0.11%	23.32
2001	11.09%	7.76%	8.03%	5.49%	5.60%	2.27%	2.54%	0.27%	25.75
2002	11.16%	7.37%	8.02%	5.43%	5.73%	1.94%	2.59%	0.65%	27.29
2003	10.97%	6.58%	6.84%	4.96%	6.01%	1.62%	1.89%	0.26%	21.98
2004	10.75%	6.16%	6.40%	5.05%	5.70%	1.11%	1.35%	0.23%	15.48
2005	10.54%	5.65%	5.93%	4.65%	5.89%	1.00%	1.28%	0.28%	12.81
2006	10.36%	6.07%	6.32%	4.99%	5.37%	1.08%	1.32%	0.25%	12.81
2007	10.36%	6.07%	6.33%	4.83%	5.53%	1.24%	1.50%	0.26%	17.54
2008	10.46%	6.53%	7.25%	4.28%	6.18%	2.25%	2.97%	0.72%	32.69
2009	10.48%	6.04%	7.06%	4.07%	6.41%	1.97%	2.99%	1.02%	31.48
2010	10.24%	5.46%	5.96%	4.25%	5.99%	1.21%	1.71%	0.50%	22.55
2011	10.07%	5.04%	5.56%	3.91%	6.16%	1.13%	1.65%	0.52%	24.20
2012	10.01%	4.13%	4.83%	2.92%	7.09%	1.21%	1.91%	0.70%	17.80
2013	9.79%	4.48%	4.98%	3.45%	6.34%	1.03%	1.53%	0.51%	14.23
2014	9.76%	4.28%	4.80%	3.34%	6.42%	0.94%	1.46%	0.52%	14.18

[1] Source: Schedule MPG-11
[2] Source: Schedule MPG-13
[3] Source: FRED, Federal Reserve Bank of St. Louis

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD
1990	4.09%	8.61%
1991	4.41%	8.14%
1992	4.42%	7.67%
1993	4.81%	6.60%
1994	3.97%	7.37%
1995	4.67%	6.88%
1996	4.69%	6.70%
1997	4.79%	6.61%
1998	6.08%	5.58%
1999	4.90%	5.87%
2000	5.49%	5.94%
2001	5.60%	5.49%
2002	5.73%	5.43%
2003	6.01%	4.96%
2004	5.70%	5.05%
2005	5.89%	4.65%
2006	5.37%	4.99%
2007	5.53%	4.83%
2008	6.18%	4.28%
2009	6.41%	4.07%
2010	5.99%	4.25%
2011	6.16%	3.91%
2012	7.09%	2.92%
2013	6.34%	3.45%
2014	6.42%	3.34%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.946571193
R Square	0.895997024
Adjusted R Sq	0.891475155
Standard Error	0.002710403
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.001455648	0.001455648	198.1475178	8.59478E-13
Residual	23	0.000168964	7.34628E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.08275603	0.0020654	40.06779223	8.78474E-23	0.078483424	0.087028636	0.078483424	0.087028636
TREASURY YIELD	-0.50979818	0.03621629	-14.07648812	8.59478E-13	-0.58471728	-0.43487907	-0.58471728	-0.43487907

MPG	Treasury Yield	3.70%
	ROE	10.09%

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD	A-TREAS. CREDIT SPRD	VIX [3]
1990	4.09%	8.61%	1.25%	23.06
1991	4.41%	8.14%	1.22%	18.37
1992	4.42%	7.67%	1.02%	15.45
1993	4.81%	6.60%	0.99%	12.69
1994	3.97%	7.37%	0.94%	13.93
1995	4.67%	6.88%	1.01%	12.39
1996	4.69%	6.70%	1.05%	16.44
1997	4.79%	6.61%	0.99%	22.36
1998	6.08%	5.58%	1.46%	25.60
1999	4.90%	5.87%	1.75%	24.37
2000	5.49%	5.94%	2.30%	23.32
2001	5.60%	5.49%	2.27%	25.75
2002	5.73%	5.43%	1.94%	27.29
2003	6.01%	4.96%	1.62%	21.98
2004	5.70%	5.05%	1.11%	15.48
2005	5.89%	4.65%	1.00%	12.81
2006	5.37%	4.99%	1.08%	12.81
2007	5.53%	4.83%	1.24%	17.54
2008	6.18%	4.28%	2.25%	32.69
2009	6.41%	4.07%	1.97%	31.48
2010	5.99%	4.25%	1.21%	22.55
2011	6.16%	3.91%	1.13%	24.20
2012	7.09%	2.92%	1.21%	17.80
2013	6.34%	3.45%	1.03%	14.23
2014	6.42%	3.34%	0.94%	14.18

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.959332092
R Square	0.920318063
Adjusted R Sq	0.908934929
Standard Error	0.002482819
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.00149516	0.000498387	80.84927006	1.06159E-11
Residual	21	0.000129452	6.16439E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.077686668	0.002754832	28.20014528	3.54808E-18	0.071957681	0.083415655	0.071957681	0.083415655
TREASURY YIELD	-0.49697566	0.033560082	-14.80853516	1.37802E-12	-0.566767669	-0.42718365	-0.566767669	-0.42718365
A-TREAS. CREDIT SPRD	0.088327732	0.188311052	0.469052298	0.643865292	-0.303286539	0.479942002	-0.303286539	0.479942002
VIX [3]	0.000158515	0.000141945	1.116734805	0.276722592	-0.000136676	0.000453706	-0.000136676	0.000453706

TREASURY YIELD	3.70%
A-TREAS. CREDIT SPRD	1.36%
VIX [3]	19.95
ROE	10.07%

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD	Baa-TREAS. CREDIT SPRD	VIX [3]
1990	4.09%	8.61%	1.45%	23.06
1991	4.41%	8.14%	1.41%	18.37
1992	4.42%	7.67%	1.19%	15.45
1993	4.81%	6.60%	1.31%	12.69
1994	3.97%	7.37%	1.26%	13.93
1995	4.67%	6.88%	1.41%	12.39
1996	4.69%	6.70%	1.47%	16.44
1997	4.79%	6.61%	1.34%	22.36
1998	6.08%	5.58%	1.68%	25.60
1999	4.90%	5.87%	2.01%	24.37
2000	5.49%	5.94%	2.42%	23.32
2001	5.60%	5.49%	2.54%	25.75
2002	5.73%	5.43%	2.59%	27.29
2003	6.01%	4.96%	1.89%	21.98
2004	5.70%	5.05%	1.35%	15.48
2005	5.89%	4.65%	1.28%	12.81
2006	5.37%	4.99%	1.32%	12.81
2007	5.53%	4.83%	1.50%	17.54
2008	6.18%	4.28%	2.97%	32.69
2009	6.41%	4.07%	2.99%	31.48
2010	5.99%	4.25%	1.71%	22.55
2011	6.16%	3.91%	1.65%	24.20
2012	7.09%	2.92%	1.91%	17.80
2013	6.34%	3.45%	1.53%	14.23
2014	6.42%	3.34%	1.46%	14.18

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.958911626
R Square	0.919511507
Adjusted R Sq	0.908013151
Standard Error	0.002495354
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.00149385	0.00049795	79.96895315	1.17954E-11
Residual	21	0.000130763	6.22679E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.077730764	0.003094191	25.12151596	3.76022E-17	0.071296042	0.084165486	0.071296042	0.084165486
TREASURY YIELD	-0.49616895	0.037053901	-13.39046461	9.39885E-12	-0.573226759	-0.41911115	-0.573226759	-0.41911115
Baa-TREAS. CREDIT SPRD	0.016498666	0.192191904	0.085844752	0.932403046	-0.383186277	0.41618361	-0.383186277	0.41618361
VIX [3]	0.000199855	0.000163267	1.224101713	0.23447025	-0.000139677	0.000539387	-0.000139677	0.000539387

TREASURY YIELD	3.70%
Baa-TREAS. CREDIT SPRD	1.75%
VIX [3]	19.95
ROE	10.06%

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD	A-Baa CREDIT SPRD	VIX [3]
1990	4.09%	8.61%	0.20%	23.06
1991	4.41%	8.14%	0.19%	18.37
1992	4.42%	7.67%	0.17%	15.45
1993	4.81%	6.60%	0.32%	12.69
1994	3.97%	7.37%	0.32%	13.93
1995	4.67%	6.88%	0.40%	12.39
1996	4.69%	6.70%	0.42%	16.44
1997	4.79%	6.61%	0.35%	22.36
1998	6.08%	5.58%	0.22%	25.60
1999	4.90%	5.87%	0.26%	24.37
2000	5.49%	5.94%	0.11%	23.32
2001	5.60%	5.49%	0.27%	25.75
2002	5.73%	5.43%	0.65%	27.29
2003	6.01%	4.96%	0.26%	21.98
2004	5.70%	5.05%	0.23%	15.48
2005	5.89%	4.65%	0.28%	12.81
2006	5.37%	4.99%	0.25%	12.81
2007	5.53%	4.83%	0.26%	17.54
2008	6.18%	4.28%	0.72%	32.69
2009	6.41%	4.07%	1.02%	31.48
2010	5.99%	4.25%	0.50%	22.55
2011	6.16%	3.91%	0.52%	24.20
2012	7.09%	2.92%	0.70%	17.80
2013	6.34%	3.45%	0.51%	14.23
2014	6.42%	3.34%	0.52%	14.18

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.959749176
R Square	0.921118481
Adjusted R Sq	0.909849693
Standard Error	0.002470318
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.00149646	0.00049882	81.74068479	9.55194E-12
Residual	21	0.000128152	6.10247E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.079023258	0.0032454	24.34931086	7.09437E-17	0.072274079	0.085772437	0.072274079	0.085772437
TREASURY YIELD	-0.5131683	0.040969325	-12.52567124	3.28923E-11	-0.598368675	-0.42796792	-0.598368675	-0.42796792
A-Baa CREDIT SPRD	-0.2112899	0.320234928	-0.659796543	0.516556039	-0.877254889	0.454675092	-0.877254889	0.454675092
VIX [3]	0.000237218	9.30539E-05	2.549253651	0.018673959	4.37018E-05	0.000430734	4.37018E-05	0.000430734

TREASURY YIELD	3.70%
A-Baa CREDIT SPRD	0.39%
VIX [3]	19.95
ROE	10.10%

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD	A-TREAS. CREDIT SPRD
1990	4.09%	8.61%	1.25%
1991	4.41%	8.14%	1.22%
1992	4.42%	7.67%	1.02%
1993	4.81%	6.60%	0.99%
1994	3.97%	7.37%	0.94%
1995	4.67%	6.88%	1.01%
1996	4.69%	6.70%	1.05%
1997	4.79%	6.61%	0.99%
1998	6.08%	5.58%	1.46%
1999	4.90%	5.87%	1.75%
2000	5.49%	5.94%	2.30%
2001	5.60%	5.49%	2.27%
2002	5.73%	5.43%	1.94%
2003	6.01%	4.96%	1.62%
2004	5.70%	5.05%	1.11%
2005	5.89%	4.65%	1.00%
2006	5.37%	4.99%	1.08%
2007	5.53%	4.83%	1.24%
2008	6.18%	4.28%	2.25%
2009	6.41%	4.07%	1.97%
2010	5.99%	4.25%	1.21%
2011	6.16%	3.91%	1.13%
2012	7.09%	2.92%	1.21%
2013	6.34%	3.45%	1.03%
2014	6.42%	3.34%	0.94%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.956862638
R Square	0.915586107
Adjusted R Sq	0.907912117
Standard Error	0.002496724
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.001487472	0.000743736	119.3103034	1.55079E-12
Residual	22	0.00013714	6.23363E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.078689132	0.002619059	30.04481249	2.3511E-19	0.073257536	0.084120727	0.073257536	0.084120727
TREASURY YIELD	-0.49931083	0.03368245	-14.82406514	6.22701E-13	-0.569163954	-0.4294577	-0.569163954	-0.4294577
A-TREAS. CREDIT SPRD	0.256605591	0.113567662	2.25949524	0.034097573	0.021080676	0.492130506	0.021080676	0.492130506

TREASURY YIELD	3.70%
A-TREAS. CREDIT SPRD	1.36%
ROE	10.07%

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD	Baa-TREAS. CREDIT SPRD
1990	4.09%	8.61%	1.45%
1991	4.41%	8.14%	1.41%
1992	4.42%	7.67%	1.19%
1993	4.81%	6.60%	1.31%
1994	3.97%	7.37%	1.26%
1995	4.67%	6.88%	1.41%
1996	4.69%	6.70%	1.47%
1997	4.79%	6.61%	1.34%
1998	6.08%	5.58%	1.68%
1999	4.90%	5.87%	2.01%
2000	5.49%	5.94%	2.42%
2001	5.60%	5.49%	2.54%
2002	5.73%	5.43%	2.59%
2003	6.01%	4.96%	1.89%
2004	5.70%	5.05%	1.35%
2005	5.89%	4.65%	1.28%
2006	5.37%	4.99%	1.32%
2007	5.53%	4.83%	1.50%
2008	6.18%	4.28%	2.97%
2009	6.41%	4.07%	2.99%
2010	5.99%	4.25%	1.71%
2011	6.16%	3.91%	1.65%
2012	7.09%	2.92%	1.91%
2013	6.34%	3.45%	1.53%
2014	6.42%	3.34%	1.46%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.955912321
R Square	0.913768365
Adjusted R Sq	0.905929126
Standard Error	0.002523462
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.001484519	0.00074226	116.563394	1.96035E-12
Residual	22	0.000140093	6.36786E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.077513835	0.003123909	24.81309169	1.40839E-17	0.071035244	0.083992425	0.071035244	0.083992425
TREASURY YIELD	-0.48332481	0.035937536	-13.44902495	4.32165E-12	-0.557854702	-0.40879493	-0.557854702	-0.40879493
Baa-TREAS. CREDIT SPRD	0.216870517	0.101850316	2.12930628	0.044664295	0.00564589	0.428095145	0.00564589	0.428095145

TREASURY YIELD	3.70%
Baa-TREAS. CREDIT SPRD	1.75%
ROE	10.04%

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD	A-Baa CREDIT SPRD
1990	4.09%	8.61%	0.20%
1991	4.41%	8.14%	0.19%
1992	4.42%	7.67%	0.17%
1993	4.81%	6.60%	0.32%
1994	3.97%	7.37%	0.32%
1995	4.67%	6.88%	0.40%
1996	4.69%	6.70%	0.42%
1997	4.79%	6.61%	0.35%
1998	6.08%	5.58%	0.22%
1999	4.90%	5.87%	0.26%
2000	5.49%	5.94%	0.11%
2001	5.60%	5.49%	0.27%
2002	5.73%	5.43%	0.65%
2003	6.01%	4.96%	0.26%
2004	5.70%	5.05%	0.23%
2005	5.89%	4.65%	0.28%
2006	5.37%	4.99%	0.25%
2007	5.53%	4.83%	0.26%
2008	6.18%	4.28%	0.72%
2009	6.41%	4.07%	1.02%
2010	5.99%	4.25%	0.50%
2011	6.16%	3.91%	0.52%
2012	7.09%	2.92%	0.70%
2013	6.34%	3.45%	0.51%
2014	6.42%	3.34%	0.52%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.946946502
R Square	0.896707678
Adjusted R Sq	0.887317467
Standard Error	0.002761834
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.001456802	0.000728401	95.49387856	1.42807E-11
Residual	22	0.00016781	7.62773E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.08170078	0.003433113	23.7978724	3.42072E-17	0.07458094	0.08882062	0.07458094	0.08882062
TREASURY YIELD	-0.49950322	0.045410257	-10.99978852	2.07465E-10	-0.593678331	-0.40532811	-0.593678331	-0.40532811
A-Baa CREDIT SPRD	0.126784563	0.325881683	0.389050902	0.700978606	-0.549052682	0.802621808	-0.549052682	0.802621808

TREASURY YIELD	3.70%
A-Baa CREDIT SPRD	0.39%
ROE	10.07%

Equity Risk Premium and Interest Rate Regression Analysis

	RISK PREMIUM	TREASURY YIELD	VIX [3]
1990	4.09%	8.61%	23.06
1991	4.41%	8.14%	18.37
1992	4.42%	7.67%	15.45
1993	4.81%	6.60%	12.69
1994	3.97%	7.37%	13.93
1995	4.67%	6.88%	12.39
1996	4.69%	6.70%	16.44
1997	4.79%	6.61%	22.36
1998	6.08%	5.58%	25.60
1999	4.90%	5.87%	24.37
2000	5.49%	5.94%	23.32
2001	5.60%	5.49%	25.75
2002	5.73%	5.43%	27.29
2003	6.01%	4.96%	21.98
2004	5.70%	5.05%	15.48
2005	5.89%	4.65%	12.81
2006	5.37%	4.99%	12.81
2007	5.53%	4.83%	17.54
2008	6.18%	4.28%	32.69
2009	6.41%	4.07%	31.48
2010	5.99%	4.25%	22.55
2011	6.16%	3.91%	24.20
2012	7.09%	2.92%	17.80
2013	6.34%	3.45%	14.23
2014	6.42%	3.34%	14.18

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.958896898
R Square	0.919483262
Adjusted R Sq	0.912163558
Standard Error	0.002438409
Observations	25

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.001493804	0.000746902	125.617556	9.22036E-13
Residual	22	0.000130808	5.94584E-06		
Total	24	0.001624612			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.077853239	0.002682982	29.01742398	4.96435E-19	0.072289074	0.083417404	0.072289074	0.083417404
TREASURY YI	-0.49748918	0.032942249	-15.10185845	4.28655E-13	-0.565807228	-0.42917114	-0.565807228	-0.42917114
VIX [3]	0.000211792	8.36055E-05	2.533232087	0.018938015	3.84049E-05	0.000385179	3.84049E-05	0.000385179

TREASURY YIELD	3.70%
VIX [3]	19.95
ROE	10.07%

Equity Risk Premium and Expected Inflation Regression Analysis

	Expected Inflation [1]			Treasury Bond Risk Premium		
	5-year TIPS	7-year TIPS	10-year TIPS	Avg ROE [2]	Yield [3]	Premium
2003	1.70	1.79	1.95	10.97%	4.96%	6.01%
2004	2.39	2.42	2.44	10.75%	5.05%	5.70%
2005	2.55	2.52	2.48	10.54%	4.65%	5.89%
2006	2.47	2.47	2.49	10.36%	4.99%	5.37%
2007	2.28	2.26	2.34	10.36%	4.83%	5.53%
2008	1.50	1.54	1.89	10.46%	4.28%	6.18%
2009	1.14	1.50	1.60	10.48%	4.07%	6.41%
2010	1.67	1.94	2.07	10.24%	4.25%	5.99%
2011	1.93	2.07	2.23	10.07%	3.91%	6.16%
2012	1.95	2.09	2.28	10.01%	2.92%	7.09%
2013	1.93	2.03	2.28	9.79%	3.45%	6.34%
2014	1.73	1.82	2.10	9.76%	3.34%	6.42%

REGRESSION DATA

	Premium	Treasury Yield	5-year TIPS	7-year TIPS	10-year TIPS
2003	6.01%	4.96%	1.70	1.79	1.95
2004	5.70%	5.05%	2.39	2.42	2.44
2005	5.89%	4.65%	2.55	2.52	2.48
2006	5.37%	4.99%	2.47	2.47	2.49
2007	5.53%	4.83%	2.28	2.26	2.34
2008	6.18%	4.28%	1.50	1.54	1.89
2009	6.41%	4.07%	1.14	1.50	1.60
2010	5.99%	4.25%	1.67	1.94	2.07
2011	6.16%	3.91%	1.93	2.07	2.23
2012	7.09%	2.92%	1.95	2.09	2.28
2013	6.34%	3.45%	1.93	2.03	2.28
2014	6.42%	3.34%	1.73	1.82	2.10

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.934009963
R Square	0.872374611
Adjusted R Squa	0.799445818
Standard Error	0.002061467
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	0.000203337	5.08343E-05	11.96200527	0.003010161
Residual	7	2.97475E-05	4.24965E-06		
Total	11	0.000233085			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.111964794	0.019308788	5.798644208	0.00066446	0.066306765	0.157622823
Treasury Yield	-0.689777484	0.160320517	-4.30249039	0.003555714	-1.068875266	-0.310679701
5-year TIPS	0.009868845	0.011602667	0.850566879	0.423146665	-0.017567104	0.037304793
7-year TIPS	0.001705193	0.008803766	0.193689049	0.851919947	-0.019112406	0.022522793
10-year TIPS	-0.020420319	0.01529768	-1.334863805	0.223699263	-0.056593583	0.015752945

[1] Source: Federal Reserve Board of Governors H.15 Selected Interest Rates
[2] Source: MPG-11
[3] Source: MPG-13